SSMJ
South Sudan Medical Journal

ISSN 2309 - 4605 eISSN 2309 - 4613

Volume 14. No 1. February 2021

www.southsudanmedicaljournal.com

Mask Up, South Sudan

- COVID-19 clinical presentations
- Paediatric elbow X-ray for injuries
- Antimicrobial stewardship - what is possible
- Anaesthesia and patient with morbid obesity
- Needle-like subtarsal foreign body
- Burn treatment in Ulang, South Sudan

SSMJ

South Sudan Medical Journal

ISSN 2309 - 4605 eISSN 2309-4613 Volume 14 1 February 2021

A Publication of the South Sudan Medical Journal

Juba Teaching Hospital, P. O. Box 88, Juba, South Sudan

Email: admin@southernsudanmedicaljournal **Website:** www.southsudanmedicaljournal.com

Index and Copyright Information

EDITORIAL

- South Sudan should mask up while waiting for COVID-19 vaccines Edward Eremugo Kenyi 4

ARTICLES

- COVID-19 clinical presentations: the modern mimic of other conditions Mohamed Eltayieb Elawad, Abrar Bakry Elmalik, Doaa Mohamed Ahmed Hassan, Fatima Salaheldin Ibrahim Mohammed, Onaisa Hassan Kabroun Idris, Nasreen Sulaiman Omar Abdulaziz and Ibrahim A Ali 5
- How to screen a paediatric elbow X-ray for injuries Brian Madison and Patrick Tshizubu 8
- Antimicrobial stewardship - what is possible Pauline Roberts 11

CASE REPORTS

- Anaesthetic management of a patient with morbid obesity: case report Arop M. D. Kual, Nkhabe Chinyepi, Katlo Rainy Diane, Karabo Ngwako and Rashid Lwango 15
- Needle-like subtarsal foreign body in a patient with no history of injury: case report Wani G. Mena 18

SHORT ITEMS

- COVID-19 updates 14
- A living WHO guideline on drugs for covid-19..... 21
- Successful treatment of a 5-year-old with burns through the Provision of Essential Health Services Project, Ulang, South Sudan Panom Puok Duoth Kier and Reat Jock Banguot 22
- ebrain elearning courses in clinical neuroscience 27

COMMENTARY

- Preparing for MRCP UK examinations for International Medical Graduates (IMGs) Zerihun Demissie Tefera 24

OBITUARIES

- Professor James Gita Hakim Edward Eremugo Kenyi 28
- Dr. Elsa Bojo Paulino Loggale Kenneth Lado Lino 29

BACK COVER

- Poster: A living WHO guideline on drugs for ovid-19 30

FRONT COVER: A mural promoting the use of masks by a group of South Sudanese artists, musicians, and writers call #Anataban in Arabic (meaning “I am Tired”) COVID-19 awareness campaign – Photo credit: Anataban

South Sudan should mask up while waiting for COVID-19 vaccines

In March 2021, it will be one year since the World Health Organization declared COVID-19 a pandemic. Since that time, COVID-19 has spread around the world and, by 15 February 2021, has affected more than 109 million and led to over 2.4 million deaths in 192 countries, as reported by the Johns Hopkins University.

On 14 February 2021, the cumulative number of cconfirmed cases of COVID-19 in South Sudan is 5,562, according to the Incident Manager at the Ministry of Health. The total number of deaths attributed to COVID-19 is 77. Although lockdowns, travel restrictions, and border closures have helped to control the virus, the three basic strategies of using a face covering, hand washing, and social distancing remain essential prevention methods.

The release of several vaccines in December 2020 has given hope that, at last, the pandemic may be controllable if not outright stopped. The ModernaTX and Pfizer BioNtech vaccines, with efficacy rates of 94.5% and 95% respectively, have shown great promise and have been rolled out in many countries. The Russian-made Sputnik 5 vaccine as well as the upcoming Johnson and Johnson one have also shown great efficacy rates.

It may be months, or even years, before the vaccines will be available in many African countries, South Sudan included. Although these vaccines may be challenging to store in Africa due to their cold storage requirements, many western countries have scrambled to access the vaccines from the manufacturers as they produced them, leaving African countries that can afford the vaccines for their people not getting sufficient quantities. However, South Africa, Egypt, Algeria and Morocco have acquired some. The Oxford-Astra-Zeneca vaccine may be more practical in Africa because of its favourable storage conditions.

"A mask mandate throughout the country will go a long way in preventing new cases of the coronavirus."

With the second wave and surge in new cases of COVID-19 starting to hit South Sudan, leading to a month-long lockdown, the hope of getting the vaccines seems to fade further and further with yet more delays. The emergence of the virus variants in some countries has dampened any hopes of getting the pandemic under control in the foreseeable future.

While South Sudan awaits the arrival of the vaccines, whenever that will be, the focus should be on the prevention strategies, implemented in tandem with restrictions that should minimally affect daily lives. A mask mandate throughout the country will go a long way in preventing new cases of the virus.

Dr. Edward Eremugo Kenyi
Editor-in-Chief
South Sudan Medical Journal
Email: admin@southernsudanmedicaljournal

COVID-19 clinical presentations: the modern mimic of other conditions

Mohamed Eltayieb Elawad[1], Abrar Bakry Elmalik[2], Doaa Mohamed Ahmed Hassan[2], Fatima Salaheldin Ibrahim Mohammed[2], Onaisa Hassan Kabroun Idris[2], Nasreen Sulaiman Omar Abdulaziz[2] and Ibrahim A Ali[1]

1. Faculty of Medicine, The National Ribat University, Khartoum, Sudan
2. Faculty of Medicine, Omdurman Islamic University, Khartoum, Sudan

Correspondence:
Dr Ibrahim Abdelrhim Ali
hemamedicine@gmail.com

Submitted: October 2020
Accepted: February 2021
Published: February 2021

Citation:
Elawad et al, COVID-19 Clinical Presentations: the modern mimic of other conditions. South Sudan Medical Journal 2021; 14(1):5-7

Abstract

The coronavirus pandemic (COVID-19) has placed enormous challenges on the health sector. Diagnosis is one of these challenges, where a clinical presentation may suggest a disease other than COVID-19. In this review we describe many presentations unrelated to the respiratory system. The ACE2 receptor is present in a wide variety of body tissues and it appears that this may be a link with the clinical pathology. To find these data we searched the major academic research engines, Google Scholar, and Pubmed, as well as the most recent case reports and original research published in specialized journals.

An awareness of these uncommon presentations helps health workers to recognize and treat the disease early and appropriately.

Keywords: COVID-19, coronavirus, pandemic, ACE2, unusual symptoms, review

Introduction

The symptoms of high fever and cough were recognised in Wuhan City (China) in December 2019 and were identified as caused by the novel coronavirus SARS-CoV-2. In 2020, the World Health Organization (WHO) declared COVID-19 to be a pandemic and recommended many precautionary measures to counter the disease. According to WHO in November 2020 the number of confirmed cases worldwide was 54,400,000 and deaths 1,320,000. The threat to health services is immense and is exemplified by the experience in Italy where services struggled to cope.[1]

Unusual clinical presentations, other than those related to the respiratory system, of COVID-19 challenges the skills of the healthcare professional. These presenting features may be related to almost any system of the human body.[2] In this review we describe this wide variety of presentations system by system with the aim of alerting clinicians of these important factors.

Central nervous system (CNS) and psychiatry

Neurological symptoms may be manifestations of the COVID-19. In one report, a 35-year-old female complained of a severe occipital headache radiating to the neck and accompanied by convulsions. After T2 Fluid-attenuated inversion recovery magnetic resonance imaging had been carried out, the initial diagnosis was as a glioma, then surgically treated after the failure of anti-epileptic drugs. A left anterior temporal lobectomy was performed, without postoperative complications. The histological study proved it was a case of encephalitis. Also, the result of PCR for COVID-19 was positive. Other symptoms may suggest a stroke.[3,4]

A relapse of a pre-existing disease may occur as in a reported case of myasthenia gravis where the patient suffered from dysphagia, exacerbated ptosis and with respiratory symptoms like exertional dyspnoea.[5]

Psychological and psychiatric symptoms may also result from COVID-19: depression, insomnia, memory problems, delirium, psychosis and mania have been recorded.[6] A case of Guillain Barré syndrome associated with COVID-19 infection was reported by Sedaghat and Karimi.[7]

Special senses

Loss of the sense of smell and taste are early symptoms of COVID-19. Based on a study involving 141 patients in Qatar the prevalence was 11.35%, 4.96%, and 8.51% of ageusia, anosmia or both respectively. It is likely that the mechanism is not related to nasal congestion or rhinitis, but chemosensory dysfunction.[8,9]

COVID-19 can affect the eyes. A case has been reported of redness and pain in the right eye with watery discharge. Nasopharyngeal and eye swabs were positive for corona virus, and the final diagnosis was keratoconjunctivitis due to COVID-19.[10] We have not found a significant case of COVID-19 with hearing involvement.

Cardiovascular system

COVID-19 may affect the cardiovascular system. A male patient complained of sticky sputum and dyspnoea on effort. He had elevated cardiac and inflammatory markers, sinus tachycardia and ST segment elevation on ECG. Transthoracic echocardiography revealed "severe global left ventricular systolic dysfunction, right ventricular (RV) enlargement, RV systolic dysfunction. A moderate-to-large pericardial effusion was noted anterior to the RV with organizing material".[11]

Gastrointestinal tract

Many COVID-19 patients have diarrhoea, vomiting or abdominal pain sometimes preceded by fever, cough and chest pain.[12] Haemorrhagic colitis, peritonitis and an acute hepatitis-like syndrome have been reported.[13-15]

Renal manifestations

Acute kidney injury has been noted. Renal biopsy has shown focal segmental glomerulosclerosis (FSGS) and acute tubular damage.[16] According to one study 75.4% of the hospitalized cases with SARS-CoV-2 had haematuria, proteinuria or acute kidney injury.[17]

Dermatological features

Dermatologists analyzed data of confirmed COVID-19 cases and found 18 with skin eruption. Eight of them showed skin symptoms from the beginning, while the rest showed them after hospital admission. These features included erythematous rash, an eruption resembling chickenpox and urticaria. The distribution was mostly in the central region, and itching was the most prominent symptom.[18]

There is a case report of a patient with an itchy, erythematous rash and yellowish papules on the heels with itchy erythematous plaques all over the face and peripheries and diffuse joint pains without swelling.[19]

Discussion

Studies suggest that ACE2 receptors may be involved with the access of SARS-CoV-2 into body tissues.[20]

The virus has been found in brain tissue and cerebrospinal fluid and hence it is not surprising to observe psychological and neurological symptoms.[20]

ACE2 receptors are found in the nasal mucosa and so may mediate the mechanism for anosmia via bradykinin and other inflammatory proteins.[21] The olfactory pathway is within the central nervous system so coronavirus may directly harm one of the structures of that pathway e.g., olfactory bulb.

This coronavirus induces a cytokine storm, the most prominent involving interleukin-6, which can harm neurons.[22]

ACE2 receptors are present in specialized cells in the glossal taste buds and hence may play a key role in changing the taste sensation.

The taste buds have receptors for sialic acid which protect glycoprotein molecules from enzyme degradation. The coronavirus has the ability to compete with that acid and link to those receptors with loss of taste.[23]

ACE2 receptors are widespread and much more work is needed to understand their significance and mechanism in relation to coronavirus infection and the clinical pathology.

Conclusion

It is essential that those caring for COVID-19 patients are aware of clinical signs and symptoms that mimic other disease processes. Lack of such awareness has serious implications for the management of patients who are not at first suspected as having the coronavirus infection and for the wider spread of the virus.

This review provides a resource for healthcare professionals alerting them to these unusual presentations and so enhancing patient care and reduction of virus spread. Our knowledge about COVID-19 is progressing rapidly and it is difficult to keep up with the pace of publications. This review is therefore unlikely to be complete but it is intended to be an alert. It shows that there is still much more to learn.

Competing interests: none
Funding: none

References

1. World Health Organization. Coronavirus disease 2019 (COVID-19): situation report, 88. In Coronavirus disease 2019 (COVID-19): situation report, 88 2020.
2. Tin SS, Wiwanitkit V. Uncommon Atypical Presentations of COVID-19: Important and Should Not be Under Recognized!. Journal of Health Science and Medical Research. 2020;38(2):153-158.
3. Efe IE, Aydin OU, Alabulut A, Celik O, Aydin K. COVID-19-associated encephalitis mimicking glial tumor: a case report. World Neurosurgery. 2020; 140: 46-48.

4. Mahboob S, Boppana SH, Rose NB, Beutler BD, Tabaac BJ. Large vessel stroke and COVID-19: Case report and literature review. Eneurologicalsci. 2020;20: 100250.
5. Singh S, Govindarajan R. COVID-19 and generalized Myasthenia Gravis exacerbation: A case report. Clinical Neurology and Neurosurgery. 2020;196.
6. Rogers JP, Chesney E, Oliver D, Pollak TA, McGuire P, Fusar-Poli P, et al. Psychiatric and neuropsychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic. The Lancet Psychiatry. 2020; 7(7): 611-627
7. Sedaghat Z, Karimi N. Guillain Barre syndrome associated with COVID-19 infection: a case report. Journal of Clinical Neuroscience. 2020;76:233-235
8. Al-Ani RM, Acharya D. Prevalence of anosmia and ageusia in patients with COVID-19 at a primary health center, Doha, Qatar. Indian Journal of Otolaryngology and Head & Neck Surgery. 2020; 19:1-7.
9. Zubair AS, McAlpine LS, Gardin T, Farhadian S, Kuruvilla DE, Spudich S et al. Neuropathogenesis and Neurologic Manifestations of the Coronaviruses in the Age of Coronavirus Disease 2019: A Review. JAMA Neurology. 2020;77(8):1018-1027.
10. Cheema M, Aghazadeh H, Nazarali S, Ting A, Hodges J, McFarlane A, et al. Keratoconjunctivitis as the initial medical presentation of the novel coronavirus disease 2019 (COVID-19): A case report. Canadian Journal of Ophthalmology. 2020; 55(4): 125–129.
11. Khatri A, Wallach F. Coronavirus Disease 2019 (Covid-19) presenting as purulent fulminant myopericarditis and cardiac tamponade: a case report and literature review. Heart & Lung. 2020;49(3):225–340
12. Pan L, Mu M, Yang P, Sun Y, Wang R, Yan J, et al. Clinical characteristics of COVID-19 patients with digestive symptoms in Hubei, China: a descriptive, cross-sectional, multicenter study. The American Journal of Gastroenterology. 2020;115(5):766–773
13. Carvalho A, Alqusairi R, Adams A, Paul M, Kothari N, Peters S, et al. SARS-CoV-2 Gastrointestinal Infection Causing Hemorrhagic Colitis: Implications for Detection and Transmission of COVID-19 Disease. American Journal of Gastroenterology. 2020;115(6):942-946.
14. Neto IJ, Viana KF, da Silva MB, da Silva LM, de Oliveira G, da Silva Cecchini AR, et al. Perforated acute abdomen in a patient with COVID-19: an atypical manifestation of the disease. Journal of Coloproctology. 2020; 40(3):269-272.
15. Abd El Rhman MM, Shafik NS, Maher A, Hemdan SB, AbdElhamid RM. Liver Involvement in COVID-19 infected patients. Sohag Medical Journal. 2020;24(2):15-9.
16. Magoon S, Bichu P, Malhotra V, Alhashimi F, Hu Y, Khanna S, et al. COVID-19–Related Glomerulopathy: A Report of 2 Cases of Collapsing Focal Segmental Glomerulosclerosis. Kidney Medicine. 2020; 2(4): 488-492.
17. Pei G, Zhang Z, Peng J, Liu L, Zhang C, Yu C, et al. Renal involvement and early prognosis in patients with COVID-19 pneumonia. Journal of the American Society of Nephrology. 2020;31(6):1157-1165
18. Recalcati S. Cutaneous manifestations in COVID-19: a first perspective. Journal of the European Academy of Dermatology and Venereology. 2020; 34(5):212-213.
19. Estébanez A, Pérez-Santiago L, Silva E, Guillen-Climent S, García-Vázquez A, Ramón MD. Cutaneous manifestations in COVID-19: a new contribution. Journal of the European Academy of Dermatology and Venereology. 2020 Jun;34(6):e250-1.
20. Zou X, Chen K, Zou J, Han P, Hao J, Han Z, et al. Single-cell RNA-seq data analysis on the receptor ACE2 expression reveals the potential risk of different human organs vulnerable to 2019-nCoV infection. Frontiers of Medicine. 2020;14(2):185-192.
21. Ohkubo K, Lee CH, Baraniuk JN, Merida M, Hausfeld JN, Kaliner MA, et al. Angiotensin-converting enzyme in the human nasal mucosa. American Journal of Respiratory Cell and Molecular Biology. 1994;11(2):173-180.
22. Berni A, Malandrino D, Parenti G, Maggi M, Poggesi L, Peri A, et al. Hyponatremia, IL-6, and SARS-CoV-2 (COVID-19) infection: may all fit together?. Journal of Endocrinological Investigation. 2020; 43(8):1137-1139
23. Vaira LA, Salzano G, Fois AG, Piombino P, De Riu G. Potential pathogenesis of ageusia and anosmia in COVID-19 patients. International Forum of Allergy &Rhinology 2020;10(9):1103-1104

How to screen a paediatric elbow X-ray for injuries

Brian Madison[1] and Patrick Tshizubu[2]

1. Department of Orthopaedics and Trauma, Juba Teaching Hospital, South Sudan
2. Centre Hospitalier Universitaire de Kigali (CHUK)/ University Teaching Hospital of Kigali, Rwanda

Correspondence:
Brian Madison
borriama@gmail.com

Submitted: January 2021
Accepted: February 2021
Published: February 2021

Abstract

Elbow injuries are common in the paediatric population. Diagnosing these injuries relies on X-rays taken on initial presentation in the emergency department. Interpreting these radiographs can occasionally be challenging, partly because of the sequential appearance of secondary ossification centres in the paediatric elbow. We propose a methodical approach that would help a clinician identify these injuries, especially the radiographically subtle ones. Evaluating these X-rays should start with a lateral view which identifies the majority of elbow injuries. Anterior cortical disruption, fat pad sign, and the anterior humeral line can be evaluated on this view, and if present, alerts the clinician to a possible subtle fracture. On this view also, the clinician can evaluate the radio-capitellar line and then proceed to evaluate it again on the anteroposterior view. With this approach almost all fractures and dislocations around the elbow can be identified.

Keywords: Humeral supracondylar fractures, elbow, anterior cortical disruption, anterior humeral line, fat pad, radio-capitellar line

Introduction

Anatomy of the Elbow

The elbow joint is a complex pivot-hinge synovial joint that connects the arm to the forearm. It functions primarily as a lever for appropriate placement of the hand in space. In children, the appearance of secondary ossification centres of the bones around the elbow is also complex. There are six centres that develop at the distal humerus, the proximal radius, and the proximal ulna. These ossification centres start to appear in a predictable sequence.[1] It is important to take note of these centres when interpreting a paediatric elbow X-ray.

Plain Radiographic evaluation of a paediatric elbow

Plain radiography is a very useful tool in investigating an injured paediatric elbow. Conventional anteroposterior and lateral views almost always provide satisfactory conclusions in trauma scenarios. It should be ensured that the X-rays provided represent true anteroposterior and lateral views to guarantee an accurate interpretation. In many cases, fractures and dislocations around the elbow are clearly demonstrable on these views. The following is a proposed systemic approach to evaluate an elbow trauma X-ray in a child, with proper emphasis on radiographically subtle injuries.

Look for an anterior cortical disruption

The lateral view of an elbow radiograph usually provides an excellent image for the diagnosis of a humeral supracondylar fracture in most children. In some minimally displaced injuries, identifying the fracture line on a radiograph can be a challenge. As a first step, the clinician should inspect on a lateral view the anterior cortex of the humerus for any disruption in cortical continuity. Most humeral supracondylar fractures are diagnosed at this stage. See figure 1.

Citation:
Madison & Tshizubu. How to screen a paediatric elbow X-ray for injuries. South Sudan Medical Journal 2021; 14(4):8-10

Look for a positive fat pad sign

There are two pads of adipose tissue located inside the elbow joint, abutting the anterior and posterior aspects of the distal humerus. The anterior fat pad is visible in normal elbow radiographs. The posterior fat pad is located deep between the humeral condyles, in the olecranon fossa, and consequently is not seen in normal lateral elbow radiographs. In the event of an elbow capsular distension, as in a case of a haemoarthrosis secondary to an intra-articular fracture, both pads are displaced. The anterior fat pad appears elevated while the posterior pad is displaced from its deep-lying location into prominence posteriorly. Appearance of a posterior fat pad on lateral elbow X-rays may be the only clue to an elbow injury. Its presence should prompt the clinician to meticulously scrutinize the X-ray for a subtle fracture.[2] Figure 2.

The anterior humeral line

In a true lateral elbow X-ray view, a line drawn along the anterior humeral cortex should pass through the middle third of the capitellum of an uninjured elbow. In children younger than 4 years this line may pass through the anterior or posterior thirds of the capitellum.[3] It should never pass anterior or posterior to the capitellum in the absence of an angular displacement typical of a humeral supracondylar fracture.[4] In an extension type humeral supracondylar fracture, the capitellum is situated posterior to this line. (Figure 3). In the relatively rare flexion type humeral supracondylar fractures, the capitellum is displaced anterior to this line.

The Radio-capitellar line

A line drawn along the long axis of the radius should pass through the centre of the capitellum in anteroposterior, lateral, and oblique views of an elbow X-ray.[5] The radio-capitellar line deviates away from the capitellum if the radio-capitellar joint is dislocated. (Figure 4)

Discussion and Conclusion

Evaluating a paediatric X-ray for injuries can be challenging. This is mainly due to the appearance and fusion of the different ossification centres as the child grows. A stepwise methodical approach to evaluating these X-rays would ensure that the majority of skeletal injuries around the elbow are identified. We recommend that the lateral view of an elbow X-ray should be examined first. At this stage the clinician should screen the X-ray for an anterior cortical disruption. If a fracture is not clearly demonstrated at this stage, and while still examining the lateral view, the clinician should look for a posterior fat pad sign. Appearance of a posterior fat pad sign usually signifies the presence of a humeral supracondylar fracture and should prompt the clinician to scrutinize carefully the X-rays for these injuries.

Figure 1. Anterior cortical disruption (black arrow). (Credit: Grayson DE. The Elbow : Radiographic Imaging Pearls and Pitfalls. Semin Roentgenol. 2005;40(3):223–47. 0037-198X/05)

Figure 2. Anterior (white arrow) and posterior (black arrow) fat pad signs in a radiographically subtle humeral supracondylar fracture. (Credit: Grayson DE. The Elbow : Radiographic Imaging Pearls and Pitfalls. Semin Roentgenol. 2005;40(3):223–47. 0037-198X/05)

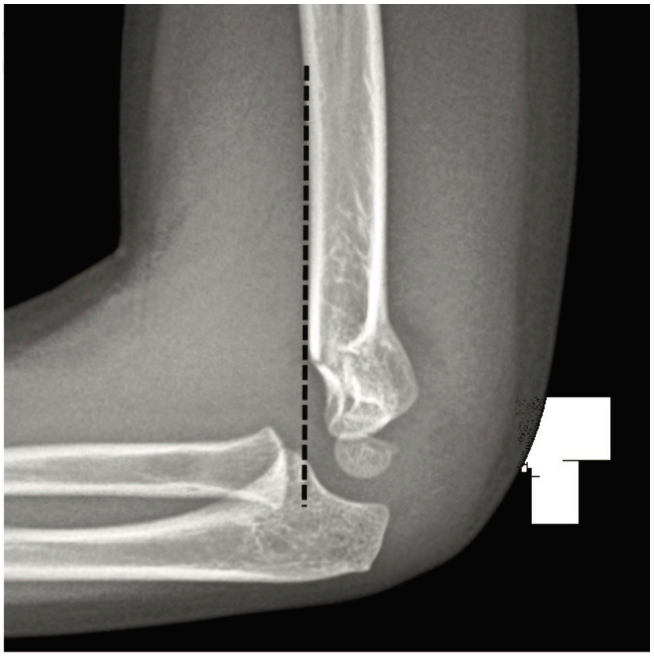

Figure 3. A lateral elbow X-ray showing the anterior humeral line in a humeral supracondylar fracture. (Credit: DeFroda S, Hansen H, Cruz JR A. Radiographic evaluation of common pediatric elbow injuries. Orthop Rev. 2017;9(1):7030.

While still examining the lateral X-ray radiographs, the clinician should evaluate the anterior humeral line. The radio-capitellar line could also be drawn on this view at this stage. The clinician then transitions to the anteroposterior view and again evaluates the radio-capitellar line on this view. At this point we believe that all fractures and dislocations around the paediatric elbow should be demonstrated reliably. Lastly, but not the least, if still in doubt, an X-ray of the opposite elbow would provide a comparison template to help rule out an elbow injury.

Conflicts of interest: none

Funding: none

Figure 4. An AP view of the elbow showing a disrupted radio-capitellar line in an elbow physeal separation (Credit: DeFroda S, Hansen H, Cruz JR A. Radiographic evaluation of common pediatric elbow injuries. Orthop Rev. 2017;9(1):7030.)

References

1. Thompson JC. Netter's Concise Orthopaedic Anatomy. 2nd ed. Thompson JC, editor. Philladelphia: Elsevier; 2010.
2. DeFroda S, Hansen H, Cruz JR A. Radiographic evaluation of common pediatric elbow injuries. Orthop Rev. 2017;9(1):7030.
3. Herman MJ, Boardman MJ, Hoover JR, Chafetz RS. Relationship of the anterior humeral line to the capitellar ossific nucleus: variability with age. J Bone Joint Surg Am. 2009;91(9):2188–93.
4. Madjar-Simic I, Talic-Tanovic A, Hadziahmetovic Z, Sarac-Hadzihalilovic A. Radiographic assessment in the treatment of supracondylar humerus fractures in children. Acta Inform Med [Internet]. 2012 Sep 1 [cited 2014 Nov 6];20(3):154–9. Available from: /pmc/articles/PMC3508849/?report=abstract
5. Grayson DE. The Elbow : Radiographic Imaging Pearls and Pitfalls. Semin Roentgenol. 2005;40(3):223–47.

Antimicrobial stewardship - what is possible

Pauline Roberts
Retired Antimicrobial Pharmacist UK

Correspondence:
Pauline Roberts
paulineiroberts61@gmail.com

Submitted: October 2020
Accepted: January 2021
Published: February 2021

Abstract

Antimicrobial drugs are the basis of modern medicine, saving lives and allowing surgery and chemotherapy to be possible. Inappropriate use of antimicrobials has led to resistance, meaning we can no longer rely on them being effective. This is further complicated by a lack of new drugs coming to market. Antimicrobial resistance is a well-documented global problem and threatens low and middle-income countries (LMIC) disproportionately. A "One Health" approach is needed, tackling antimicrobial use inhuman, veterinary, agriculture and environmental sectors. Many health professionals are aware of antimicrobial resistance but struggle to know how to change their practice safely. Here, the author reports on her experience as an antimicrobial pharmacist at Betsi Cadwaladr University Health Board (BCUHB) in Wales and observing practices in Eswatini. BCUHB used various strategies and tools to support prescribers to change prescribing practice. Some of these tools were specifically aimed at primary care prescribers. Similar tools could be developed to support prescribers in LMIC. Antimicrobial resistance cannot be ignored and action is needed now.

Keywords: Antimicrobial Stewardship (AMS), Antimicrobial Resistance (AMR), antibiotics, low and middle-income countries (LMIC), primary care

Introduction

Antimicrobial Drugs (AMDs) are widely used in modern medicine practice to prevent potential infections (prophylactic therapy) or manage existing infectious diseases. Microorganisms such as bacteria, fungi, viruses, and parasites mutate all the time naturally. However, exposure to antimicrobial drugs causes selection of resistant strains, rendering AMD less effective or ineffective. The emergence and spread of AMD resistance present a significant global public health threat. The 2016 O'Neill review estimated about 700,000 die every year from drug-resistant strains of common bacterial infections. However, if the current situation is left unchecked, this could rise to 10 million deaths annually by the year 2050 and associated cumulative cost to the global economy of over 100 trillion.[1] The middle and lower-income countries are disproportionally affected: eighty-nine percent of the 10 million fatalities would be in Africa and Asia.[2]

Antimicrobial Drug Resistance (AMDR) often occurs as a result of the inappropriate use of antimicrobial drugs, including over- and under-prescribing. It is estimated that 8% of hospitalized COVID-19 patients experienced bacterial infections while 72% received antibiotics.[3] Overuse of specific antibiotics increases the likelihood of resistance.

The World Health Organization (WHO) has reported on several instances of AMDR, such as multidrug resistant TB (MDR-TB), which has been reported in all regions of the world, and extensively drug-resistant TB (XDR-TB), which is resistant to at least four of the core TB drugs. Moreover, resistance has also emerged to carbapenem antibiotics, the last resort for treatment of *Klebsiella* pneumonia, a common intestinal bacterium that can cause life-threatening infections, and a significant cause of hospital-acquired infections. However, developing a new drug costs a significant amount of time and money. Therefore, promoting good antimicrobial prescribing practice is a feasible way to combat the growing AMR threat.

Citation:
Roberts. Antimicrobial stewardship - what is possible. South Sudan Medical Journal 2021; 14(4):11-14

Several efforts aimed to slow down the emergence and spread of AMR strains have been introduced, including World Antimicrobial Awareness Week which occurs annually each November. Its main objectives are to increase awareness of global antimicrobial resistance and to encourage best practices among the general public, health workers and policy makers to avoid the further emergence and spread of drug-resistant infections.

Fighting AMR requires a "One health" approach that covers human, veterinary, agricultural, and environmental sectors.[2] However, this article will focus mainly on the antimicrobial stewardship approach in fighting antimicrobial resistance adopted at the Betsi Cadwaladr University Health Board (BCUHB), with whom the author worked.

Antimicrobial Stewardship Approach

Antimicrobial Stewardship is an organizational or healthcare system broad approach that promotes and monitors antimicrobial usage in the health care sector. However, Antimicrobial Stewardship cannot successfully fight AMR without infection control and vaccination programs. As part of the global effort to combat AMR, the WHO in 2015 introduced five strategic objectives:

- to improve awareness and understanding of antimicrobial resistance;
- to strengthen knowledge through surveillance and research;
- to reduce the incidence of infection;
- to optimize the use of antimicrobial agents
- to develop the economic case for sustainable investment that takes account of the needs of all countries, and increase investment in new medicines, diagnostic tools, vaccines and other interventions.

Between 2017-2019, BCUHB achieved a 12.6% reduction in the volume of antimicrobial drugs prescribed in primary care.[4] The interventions used can be grouped in the following categories: educational programme, multidisciplinary approach, adherence to antimicrobial prescription guidelines, and surveillance.

Educational program

One of the most useful tools in our approach was educating health care professionals, especially those under training. This ensured that they understood the threat of antimicrobial resistance and the impact of irrational prescribing of antimicrobials on patients and public health in general. The following resources can be helpful.

FutureLearn[5] runs various free access courses on Antimicrobial Resistance and Stewardship for health professionals, including:

- Antimicrobial Stewardship for Africa;
- Antimicrobial Stewardship: Managing Antibiotic Resistance;
- The role of Antifungal Stewardship;
- TARGET Antibiotics-Prescribing in Primary Care;
- Utilizing Social Science and Behaviour Change in Antimicrobial Stewardship Programmes: Improving Health Care;
- Challenges in antibiotics Point Prevalence surveys.

As well as discussing the importance of Antimicrobial Stewardship, they also discuss strategies that can be used to tackle antimicrobial resistance.

The WHO also runs the online course, "Antimicrobial Stewardship: A competency-based approach."[6]

It is important to educate children about infection control and antibiotic use. E-bug [7] is a free educational resource for the classroom which provides lesson plans for teachers and teaches school children about microorganisms, how disease spreads, and basic information about antimicrobials. Resources are available for school students of different ages and in different languages.

Promoting non-prescribing of antibiotics where appropriate

General Practitioners in BCUHB were aware of the problem of antimicrobial resistance but struggled to identify how they could change their prescribing habits safely. The majority of antibiotic prescribing occurs outside the hospital, so it is important to support primary care prescribers, although historically, most resources have been directed at hospital prescribing.

The Royal College of General Practitioners in the UK developed the TARGET (Treat Antibiotics Responsibly, Guidance, Education Tools) toolkit[8] to help influence prescribers' and patients' personal attitudes and perceived barriers. To develop the tools, they asked the question "why do primary care staff prescribe antibiotics". They identified three key reasons:

- Relief of symptoms;
- Worry about complications/more serious illness;
- Patient pressure.

They then developed training material and patient information leaflets that could be used instead of an antibiotic prescription. The leaflets were aimed at commonly presenting infections and tackled the questions above. The leaflets explained why an antibiotic was not necessary, for how long patients could expect to experience symptoms, how they could help themselves,

and when to get help if symptoms did not improve. Use of the TARGET toolkit is discussed in a FutureLearn online course.[5]

The TARGET toolkit leaflets were appreciated by prescribers in BCUHB and were a successful tool in driving change, giving prescribers the confidence to know when an antibiotic was not appropriate. Similar leaflets could be beneficial in LMIC, including South Sudan, giving prescribers the confidence to know when it is safe not to prescribe an antibiotic.

Team Approach

BCUHB recognised the importance of a team approach and developed the Safe Clean Care initiative. Safe Clean Care is a multidisciplinary behavioural change program that sets out clear achievable goals.

Importantly Safe Clean Care had management support. The initiative acknowledged everybody's involvement in preventing healthcare-acquired infection and prevention of antimicrobial resistance by including consultants to cleaners in the meetings. The approach adopted was to listen to staff, to understand barriers to change, to recognize good practice but also to implement consequences for staff who repeatedly failed to comply with initiatives such as "bare below the elbow".

Instead of concentrating on what could not be changed, e.g. hospital buildings, areas that could be changed were targeted, e.g. de-cluttering the wards.

Safe Clean Care empowered staff to make a change and acknowledged their work. It allowed people to start to make a difference rather than being overwhelmed by the problem. As a result, staff morale and patient care improved.

Antimicrobial Prescribing Guidelines

Advice for prescribers on which antibiotics to prescribe is essential for prudent antimicrobial prescribing. BCUHB were fortunate to have a formulary developed and updated at local level based on sensitivities. This is not the case in many LMIC but there are other tools available that can help. The WHO in 2017 introduced the Access, Watch, Reserve ("AWaRe") classification of antibiotics in its Essential Medicines List.[9] The classification is a tool for antibiotic stewardship at local, national and global levels with the aim of reducing antimicrobial resistance.

The Commonwealth Pharmacists Association, as part of their Commonwealth Partnership for Antimicrobial Stewardship, has supported Ghana, Tanzania, Uganda and Zambia to develop antimicrobial Formularies and publish them on the Micro Guide app along with other useful prescribing information.[10]

South Africa has also developed a pocket guide to antibiotic prescribing, which, as well as being a formulary, explains the principles behind antibiotic prescribing, the likely pathogen causing infection, the penetration of antibiotics at different sites and antibiotic sensitivities.[11]

Surveillance

One of the strategic objectives outlined in the WHO 5-point strategy discussed above is to strengthen knowledge through surveillance and research. At the local level, accurate sensitivity data help to identify appropriate treatment, but when shared, it can be used on a national and global level. Many LMIC have limited lab resources, which makes both the individual patient decision difficult and the extent of resistance within the country unknown.

Resources that may be useful are:

- GLASS promotes and supports a standardized approach to the collection, analysis, and sharing of AMR data at a global level.[12]
- The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS) is a simple freely available web-based tool that measures and monitor antimicrobial prescribing in hospitals worldwide. The system also offers feedback and help in identifying hospital interventions and identifying targets.[13]
- The Centre for Disease Dynamics, Economics and Policy provides information on antibiotic use and antibiotic resistance at the country level where information is available.[14]

Conclusion

Antimicrobial Stewardship is complicated but possible. Although health professionals are often aware of the risk that overuse of antimicrobials will cause resistance, they often do not know how to safely reduce their prescribing of antibiotics and feel their actions will not make a difference. Clear prescribing guidelines and tools can support antimicrobial stewardship and encourage individuals and institutions to begin to tackle the problem. Antimicrobial resistance is not a problem that will go away and action is needed now in all countries including South Sudan. In many LMICs patients can obtain antimicrobials without prescription, so interventions directed at prescribers also need to include pharmacists and pharmacy assistants.

Acknowledgements

I thank my anonymous reviewer from South Sudan and James Beard for their inputs to this paper making it relevant to countries like South Sudan.

Funding: none.

Conflicts of interest: none.

References

1. O'Neill J. Tackling Drug-Resistant Infections Globally: Final Report and Recommendations. 2016.
2. The Fleming Fund. AMR: What You Need to Know About Antimicrobial Resistance. 2017.
3. The Fleming Fund. Drug-resistant Infections in the Time of COVID-19. 2020.
4. Public Health Wales. Antibacterial Usage in Primary Care in Wales
5. FutureLearn. Online Antimicrobial & Antibiotic Resistance Courses.
6. World Health Organization. Antimicrobial Stewardship: A competency-based approach.
7. e-Bug.
8. Royal College of General Practitioners. TARGET Antibiotics Toolkit.
9. World Health Organization. WHO releases the 2019 AWaRe Classification Antibiotics.
10. Commonwealth Pharmacists Association. Commonwealth Partnerships for Antimicrobial Stewardship (CwPAMS) app.
11. Wasserman S, Boyles T, Mendelson M. A Pocket Guide to Antibiotic Prescribing for Adults in South Africa, 2015.
12. World Health Organization. Global Antimicrobial Resistance Surveillance Systems (GLASS).
13. Global-PPS. Sharing Global Knowledge, Supporting Local Actions.
14. The Centre for Disease Dynamics, Economics & Policy (CDDEP). Resistance map.

COVID-19 UPDATES

South Sudan Corona Dashboard

Click https://corona-scanner.com/country/south-sudan for on-going updates on COVID-19 in South Sudan. Corona Scanner https://corona-scanner.com/ is a free online dashboard solution which offers real-time coronavirus statistics like the amount of infections, deaths, still sick and recovered people per country. More statistics are coming very soon. The data displayed on this website originate from reliable sources (global health institutes) and is automatically updated every 30 seconds. Please note that the data only includes verified cases, which means that the exact numbers can vary from the numbers provided by news / social media sources.

Seven things to know about COVID-19 variants in Africa

https://www.afro.who.int/news/seven-things-know-about-covid-19-variants-africa

22 January 2021 Brazzaville. New COVID-19 variants have emerged in Africa as the continent records a new peak in infections. While virus mutations are not unusual, those that are more infectious are worrisome. On this site Professor Francisca Mutapi, Professor in Global Health Infection and Immunity, University of Edinburgh, answers the following questions.

1. Why do viruses mutate, and should we be worried about SARS-CoV-2 variants?
2. Mutation, variants, lineages and strains are used quite often. What is the difference?
3. How many variants are circulating in Africa and what do we know about them?
4. What is the implication of the variants on COVID-19 transmission, therapeutics and vaccines?
5. Does vaccine development take virus mutation into consideration?
6. Can vaccines be restructured to tackle virus mutations that emerge later?
7. What should Africa countries do to better respond to the new variants?

Gordon Memorial College Trust Fund applications for 2021/2022

The deadline for Gordon Memorial College Trust Fund(GMCTF) grant applications for the academic year 2021/2022 is 28th February 2021. New applicants, and those wishing to renew their grants after successful progress in their current courses, should go the website www.gmctf.org to submit their applications before the deadline.

Eluzai Hakim, Associate Editor SSMJ

Anaesthetic management of a patient with morbid obesity: case report

Arop M. D. Kual[1], Nkhabe Chinyepi[2], Katlo Rainy Diane[3], Karabo Ngwako[4] and Rashid Lwango[5]

1. Senior Anaesthesiologist, Department of Anaesthesia and ICU, Princess Marina Hospital, Botswana
2. Medical Officer, Department of Anaesthesia and ICU, Princess Marina Hospital, Botswana
3. General Surgeon, Department of General Surgery, University of Botswana
4. Resident in General Surgery, Department of General Surgery, University of Botswana
5. Medical Officer, Department of General Surgery, University of Botswana

Correspondence:
Arop M.D. Kual
safeanaesthesiaservices@yahoo.com

Submitted: October 2020
Accepted: January 2021
Published: February 2021

Citation:
Kual et al, Anaesthetic management of a patient with morbid obesity: case report. South Sudan Medical Journal 2021; 14(1):15-17

Abstract

The purpose of this case report is to describe our experience of the anaesthetic management of a patient with morbid obesity undergoing general surgery. The obese patient is at great risk of problems with endotracheal intubation and developing peri-operative respiratory and cardiovascular complications. The difficulties in moving and positioning the patient and gaining venous access add to the problems. Anaesthesia and surgery on an obese patient should not be undertaken lightly without a full understanding of the potential problems.

Keywords: obesity; morbid obesity; body mass index (BMI); ideal body weight (IBW); peri-operative management; Botswana.

Introduction

The obese patient is at great risk of problems with endotracheal intubation and developing peri-operative respiratory and cardiovascular complications. The difficulties in moving and positioning the patient and gaining venous access add to the problems. Anaesthesia and surgery on an obese patient should not be undertaken lightly without a full understanding of the potential problems. This case report addresses these important key issues.

Case Report

Anaesthesia in the morbidly obese patient presents many challenges. The concern is airway management and in particular difficulties with intubation.[1]

We describe an obese female patient whose weight was 165 kg, height was 163.5 cm and hence Body Mass Index (BMI) was 61.7. (BMI = body weight (in kg)/ height2 (in meters)). She required a ventral hernia repair.

Pre-operative anaesthetic evaluation used the Mallampati classification:

- Class I: Soft palate, uvula, fauces, pillars visible.
- Class II: Soft palate, major part of uvula, fauces visible.
- Class III: Soft palate, base of uvula visible.
- Class IV: Only hard palate visible.

Our patient fell into Class III with an almost absent neck with a limited range of movement of the head and neck. The thyromental distance (TMD) was greater than 6 finger breadths. The thyromental distance is measured from the thyroid notch to the tip of the jaw with the head extended. Anything less than 7.0 cm warns the anaesthetist about possible difficulties with intubation. Our patient had a TMD of greater than 12 cm. All laboratory variables and vital signs were within normal ranges (pulse rate 71 bpm and a BP 100/60 mmHg).

The patient was positioned supine and all monitors were attached, pulse oximetry, non-invasive blood pressure (NIBP) and electrocardiogram (ECG). The patient was pre-oxygenated with 100% O2 via facemask. She was then pre-medicated with metoclopramide 10 mg IV and anaesthetized with propofol 200 mg IV and suxamethonium 100 mg IV. The first intubation attempt was unsuccessful with poor visualization of the vocal cords using the smaller laryngoscope (Macintosh

size 4). Intubation was successful using a Macintosh size 5 laryngoscope and a 7mm endotracheal tube A size 3 oropharyngeal airway was also inserted. The patient was ventilated mechanically using a volume control mode with a tidal volume of 1,000 mls at a rate of 6mls – 8mls/minute. Sevoflurane 0-3.5 % was given. The peak inspiratory pressure was 35 cmH_2O and the Inspiratory Expiratory (I:E) ratio of 1:2. A non-depolarizing muscle relaxant (atracurium 50 mg in total) was used during mechanical ventilation.

The patient remained haemodynamically stable during surgery and the emergence from anaesthesia was uneventful. She was ultimately extubated post-surgery and transferred to Post-Anaesthesia Care Unit (PACU). The whole anaesthesia course was uneventful.

Discussion

We are not aware of any reports of morbidly obese patients being anaesthetized for surgery at Princes Marina Hospital. The anaesthetic management of an obese patient is challenging. A number of factors need to be considered. An operating room with sufficient space is required. Positioning of the patient before induction of anaesthesia is important. Ideally lifting equipment should be available: we did not have this facility. Two operating tables should be placed side by side to accommodate the patient [2] but we had only one available.

All necessary anaesthetic equipment must be immediately available in anticipation of difficulties. An obese patient has high intra-abdominal pressure and decreased functional residual capacity (FRC), end-expiratory lung volume, and total lung capacity (TLC) making mechanical ventilation difficult. Muscle paralysis with muscle relaxants, further reduces lung volumes.

Pharmacokinetics & pharmacodynamics

Obesity affects drug pharmacokinetic and pharmacodynamic profiles. Most of the data on drug dosing are for non-obese patients.[3] The increase in extracellular volume, the larger fat mass and lean body weight all affect drug pharmacokinetics. The volume of distribution of lipophilic drugs is greater than in normal-weight patients, whereas the hydrophilic drugs do not vary as much. The advice on the use of ideal body weight (IBW) or total body weight to calculate drug dosages is not always clear. For example, paralytics are dosed based on IBW and most analgesics are based on lean body weight. Due to the large doses required with the increased distribution volume and the risk of prolonged effects after discontinuation, lipophilic drugs such as barbiturates, benzodiazepines, and volatile inhalation agents, should be used with caution or minimally in obese patients. Anaesthesia can be easily maintained by either intravenous anaesthesia (IV) or inhalation anaesthesia.

The ideal inhalational anaesthetic has a short onset and short, reliable recovery profile. Desflurane is the inhalational agent of choice in obese patients, but sevoflurane can also be used as in our case.

Figure 1. Obese patient with very short neck

Pulmonary System

Obese patients are at increased risk of having difficult to handle airways, as bag mask valve ventilation and intubation can be challenging. While increased BMI does not predict difficulty with laryngoscopy or tracheal intubation, greater neck circumference (>40 cm) and higher Mallampati score (>3) are better predictors of difficult intubation.

Although most patients in a supine position may successfully undergo tracheal intubation, other adjuncts, such as flexible fibreoptic wake-up intubation, video – assisted laryngoscopy and laryngeal mask airway (LMA), should be readily available.

As the FRC in obese patients is diminished, lengthy periods of apnoea are not tolerated and patients easily deoxygenate.[4] It is therefore recommended that preoxygenation be used for denitrogenation using 100% fraction of inspired oxygen (FiO_2).

For the pre-intubation process, it is often suggested that continuous positive airway pressure (CPAP) at 10 cmH_2O is used to reduce the development of atelectasis [4]. A typical intubation position for obese patients, using shoulder towels, is the reverse Trendelenburg or head-up position 25 to 40 degrees.

With the rise in BMI, obese patients with decreased FRC, and expiratory reserve capacity show a restrictive trend during anaesthesia.

Lung volume, and compliance also decrease. For obese patients an increase in oxygen intake, respiratory resistance, and breathing function is observed.

These changes result in gas trapping and hence mismatching of the ventilation-perfusion ratio, hypoxaemia, and atelectasis which becomes worse with anaesthesia and paralysis. Furthermore, there is a higher incidence of obstructive sleep apnoea (OSA). The most common bariatric surgery procedures are gastric bypass, sleeve gastrectomy, adjustable gastric band and biliopancreatic diversion with duodenal switch.

The American Association of Clinical Endocrinologists (AACE), the Obesity Society (TOS) and the American Society for Metabolic and Bariatric Surgery (ASMBS) support polysomnographic preoperative screening and preoperative CPAP in patients at risk.

It has been shown that pre-operative CPAP decreases severe hypoxaemia, pulmonary vasoconstriction, postoperative complications and hospital length of stay. Postoperative CPAP decreases the risk of restrictive pulmonary disease and acute respiratory distress syndrome.[5]

The use of post-operative CPAP is recommended when pulse oximetry falls to 90% while sleeping and IV medications are no longer required for pain relief. There are no specific guidelines on ventilator techniques for obese patients. However, in the anaesthesiology literature recommendations indicate the use of at least 10 cmH_2O of post-end expiratory pressure (PEEP) after induction.[5]

The use of high tidal volumes, PEEP and critical capacity manoeuvres to improve ventilation and oxygenation were recorded, although[5] showed little gain in high tidal volumes in an attempt to sustain FRCs. Extubation should be done after the defensive airway reflexes have been assessed and the recovery of muscle strength has been assessed, the patient is fully awake and able to execute commands and in the reverse Trendelenburg position. Once extubated, continuous pulse oximetry is used to detect subclinical periods of desaturation.

Following major surgery, supplemental oxygen should be given, with some physicians suggesting treatment times of at least 24 to 48 hours. Nasal CPAP was also prescribed postoperatively, in addition to supplemental oxygen.

Cardiovascular System

Obesity is a significant coronary heart disease risk factor. Obese patients must undergo a thorough cardiovascular examination prior to elective surgery. They are at a higher risk for hypertension and hence left ventricular hypertrophy, pulmonary hypertension, and coronary arterial occlusion.[6]

Investigations should include chest X-ray, 12-lead electrocardiography and polysomnography in patients with OSA. Echocardiography, spirometry, are needed in the presence of additional risk factors (e.g. heart diseases and COPD), and arterial blood gases.

Perioperative beta-blockers like labetalol are recommended in healthy or suspected coronary artery disease patients. According to Leonard, Davies and Waibel[6] "Several side effects of beta-blockade, however, such as impaired tolerance to glucose, decreased insulin resistance and other metabolic anomalies, can be dangerous in highly obese patients or patients with metabolic syndrome. Other medicinal products including antihypertensives can be continued preoperatively. Routine intraoperative haemodynamic surveillance should be started using telemetry and controlling blood pressure."

Blood pressure arm cuffs should be long enough to encircle at least 75% of the arm and 40% of the width of the arm.

Conclusion

Obesity is increasing in Botswana especially among female patients. This poses a high risk to patients undergoing anaesthesia and surgery. This is a concern for the whole team (anaesthetists, surgeons and nurses) which should be aware of the potential risks associated with morbidly obese patients. This case report exemplifies the difficulties in management.

Disclosure: We did not receive funding from any source and there are no conflicts of interest

Role of authors: Senior anaesthesiologist: principal investigator and main author; Medical Officer – Anaesthesia Department: assisted in editing and provided clinical data on the anaesthetic management; other authors: assisted in editing.

References

1. Myatt J, Haire K. Airway management in obese patients. Current Anaesthesia & Critical Care 2010;21(1):9-15.
2. Fisher A, Waterhouse TD, Adams A P. (1975). Obesity: its relation to anaesthesia. Anaesthesia 1975;30(5):633–647.
3. De Baerdemaeker L, Margarson M. Best anaesthetic drug strategy for morbidly obese patients. 119–128. Current Opinion in Anaesthesiology 2016;29(1):119–128
4. Boyce JR, Ness T, Gleysteen J J. A Preliminary Study of the Optimal Anesthesia Positioning for the Morbidly Obese Patient. Obes Surg. 2003 Feb;13(1):4-9. doi: 10.1381/096089203321136511.
5. Cullen A, Ferguson A. Perioperative management of the severely obese patient: A selective pathophysiological review. Canadian Journal of Anesthesia 2012;59(10):974–996.
6. Leonard KL, Davies SW, Waibel BH. Perioperative management of obese patients. Surgical clinics of North America 2015;95(2):379–390.

Needle-like subtarsal foreign body in a patient with no history of injury: case report

Wani G. Mena
Eye Clinic, Mutare Medical Centre,
Mutare, Zimbabwe

Correspondence:
Dr Wani G. Mena
wanigmena@gmail.com

Submitted: September 2020
Accepted: January 2021
Published: February 2021

Abstract

Subtarsal foreign bodies (FB) are a significant cause of ocular discomfort and are often missed on slit lamp examination of the everted upper eye lid. We report a patient with a needle-like subtarsal FB which was missed on repeated examinations over a three-month period. Staining with fluorescein and observation of scratch marks on epithelial surface of the cornea can give a clue to the presence of such a FB.

Key words: Subtarsal foreign bodies, ocular morbidity, fluorescein staining, case report,

Introduction

Subtarsal foreign bodies (FB) are a significant cause of ocular morbidity and a reason for repeated visits to clinicians. They lie beneath the tarsal surface and are easily missed on slit lamp examination of the everted eye lid. The tip may be concealed by oedema of the conjunctiva but can scratch the surface of cornea, causing severe discomfort, pain, and FB sensation. Fluorescein staining reveals characteristic linear scratch marks on the epithelium of the cornea.

We present a patient with a needle-like vegetative subtarsal FB which was missed on successive examinations over a three-month period during which the patient suffered pain, tearing and FB sensation. We also report three similar patients whose subtarsal FBs were missed on initial examination.

Case reports

Case 1

Case 1 was a 68-year-old male who presented to the eye clinic at Mutare Medical Centre on 17 June 2020 complaining of pain, tearing and foreign body sensation in the right eye since March 2020. There was no history of trauma or a feeling of a FB entering the eye. He had gone to a local primary care clinic on 27 March 2020 complaining of FB sensation. No FB was seen on examination and

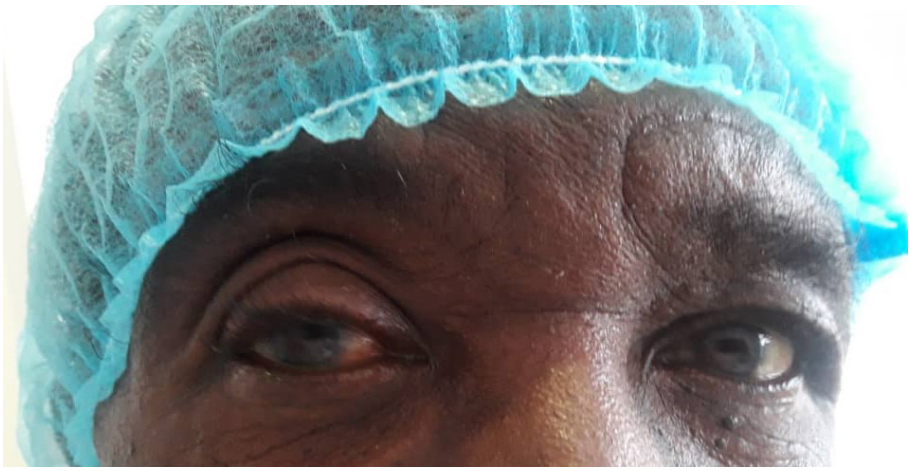

Figure 1. Note the swollen eye lid and hyperaemia of the conjunctiva in the right eye compared to the left eye (Credit Dr Wani)

Citation:
Mena. Needle-like subtarsal foreign body in a patient with no history of injury: case report. South Sudan Medical Journal 2021; 14(1):18-20

he was discharged on tetracycline eye ointment. On 28 May 2020 he presented to the District Eye Clinic with symptoms of pricking pain and a gritty sensation in the right eye. Examination showed a visual acuity of 6/36 in each eye, improving to 6/18 with pinhole. An inflamed pinguecula was noted but no FB was seen. He was discharged on topical steroid/antibiotic ointment.

The patient presented to Highlands Eye Clinic on 17 June 2020; examination showed visual acuity was 6/18 in each eye; the right eye had oedema of the eye lids, and mild hyperaemia of the conjunctiva (Figure 1).

When stained with fluorescein and examined under white light the cornea appeared clear with no visible epithelial defects or infiltrates (Figure 2A). Examination with cobalt blue filter revealed linear scratch marks on corneal surface (Figure 2B) signalling the presence of a foreign body under the upper eye lid.

Slit lamp examination of the everted upper eye lid showed no obvious FB on the surface of tarsus. A localized area of granulomatous swelling of the conjunctiva overlying the tarsal plate was noted close to the lid margin – see arrow in Figure 3. Pressure on the sides of this area revealed the tip of a needle-like black FB beneath the center of the swelling. Under high magnification the tip was grasped with a fine forceps and a long needle like FB pulled out. This was placed on the surface of the tarsal conjunctiva and photographed – see Figure 3.

The patient gave verbal consent for the photographs which were taken with Samsung Galaxy J7Core Android phone camera attached to the Slit Lamp eye piece via special adapter.

Other cases

Three other patients with similar presentations are described below.

The first was a white Zimbabwean school boy who presented to the Government Eye Unit in Mutare in 1999 with a history of FB sensation in the left eye. On fluorescein staining of the cornea and examination with a cobalt-blue filter, linear scratch marks were seen on the epithelial surface of the cornea. The upper lid was everted and on Slit Lamp examination of the conjunctiva overlying the tarsal plate, a needlelike subtarsal FB was seen projecting from beneath the surface of the tarsal plate. The FB was removed giving immediate relief of symptoms.

The second was a young man who presented to a private eye clinic in Mutare Zimbabwe with a history of FB sensation in the left eye without preceeding history of trauma. The eye was minimally inflamed but examination of the everted eye lid in the left eye revealed no FB. He was discharged on chloramphenical ointment but returned the

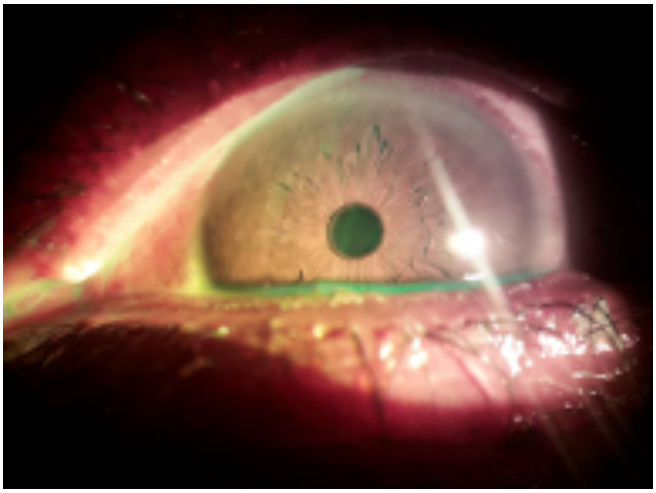

Figure 2A. Cornea before examination with cobalt flue filter (Credit Dr Wani)

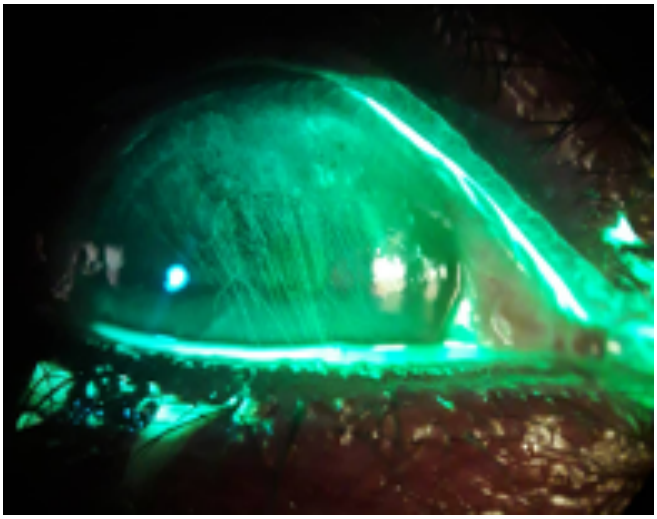

Figure 2B. Examination with cobalt blue filter of fluorescein-stained cornea showing scratch marks (Credit Dr Wani)

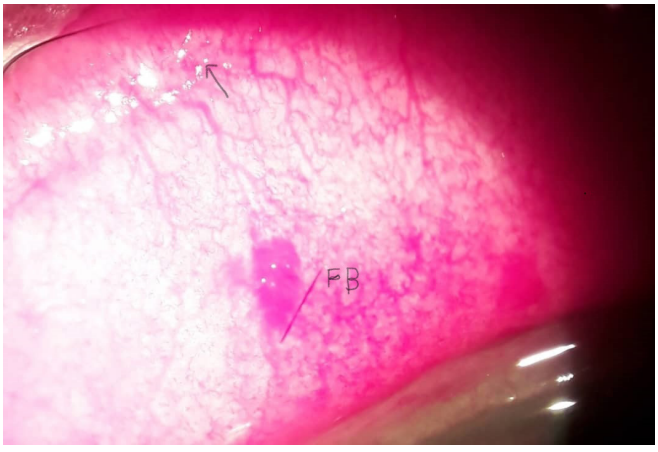

Figure 3. Needle like FB photographed on surface of the tarsal plate (Credit Dr Wani)

same day with the same symptoms.. Staining revealed the presence of scratch marks on the cornea and a search with an operating microscope at high magnification revealed the tip of a small needle-like FB concealed by oedematus conjunctiva. Removal of the FB gave immediate relief and the patient never returned

The third was a senior Member of Parliament in the Republic of South Sudan who presented to the eye clinic in Juba in 2014 with a two-month history of FB sensation, pain and swelling of the eye lids in the right eye. He had previously travelled to Cairo and then Dubai to seek treatment for these symptoms. No FB had been detected at either consultation and the patient had been put on topical antibiotic treatment which did not relieve the symptoms. On examination he had an inflamed tearing eye with swollen eye lids. Fluorescein staining and examination with cobalt blue filter revealed linear scratch marks on the cornea and under high magnification the tip of a needle-like subtarsal FB was found lying beneath the swollen conjunctiva overlying the tarsal plate. Under high magnification in the operating theatre the FB was removed resulting in complete resolution of symptoms.

Discussion

These patients represent an unusual but challenging clinical problem. We are used to finding a metallic FB, a shell or wing of insect sitting on the tarsal surface of the everted upper eye lid on examination of patients with these symptoms. A subtarsal FB can be easily missed for various reasons. First, there is usually no history of trauma of which the patient is aware, or that can be associated with the onset of symptoms. Second, there usually is no entry wound on the skin of the eye lid. Third, the FB is not usually visible on slit lamp examination of the everted eye lid.

The literature on this problem is quite scanty. Quirke[1]] described several cases of needle like FB that penetrated the tarsal plate with a projecting tip scratching the cornea and causing severe symptoms of irritation and FB sensation. A microscopic study of these FBs showed that they were either of vegetative or animal origin. Madhusudhana and Chakraborty[2] reported a patient with a metallic FB on tarsal plate that was missed on initial examination and was only discovered after a skull X-Ray revealed presence of a radio opaque object in the orbit.

Our patient (Case 1) had a fine needlelike FB which probably penetrated the skin, muscle and tarsal plate to project a small portion on tarsal surface. There was no entry wound on the skin of the eye lid and patient had no history of trauma. Movement of the eye lid during blinking resulted in corneal abrasion. Quirke[1] observed that secondary tarsal conjunctival oedema and granuloma formation may conceal the FB making it difficult to detect on slit lamp examination.

That our patient gave no history of trauma is probably explained by the fact that the FB was so fine it could penetrate the skin and other layers of the upper lid without the patient feeling any pain. This situation can mislead the clinician who is likely to attribute the patient's symptoms to other incidental findings found on examination. Our patient's symptoms had been attributed to a pinguecula on one of the occasions he was seen and probably this was because no other findings could explain the symptoms. The sources of this type of FB may include hair, or make-up brushes, or fine thorns,The trauma event resulting in the FB for Case 1 is not known.

A high index of suspicion is needed to detect this kind of fine FB. A patient complaining of FB sensation in whom no FB is seen on Slit lamp examination of the cornea and everted eye lid should have fluorescein staining of the cornea and examination with a cobalt blue filter. Observation of scratch marks should prompt a further search for subtarsal FB on the everted eye lid. Note that its presence may be concealed by reactionary oedema or granuloma of the conjunctiva overlying the tarsal plate in the area of the FB. Lack of an entry wound does not exclude the presence of such a foreign body.

In conclusion it is noted that subtarsal FBs can cause distressing symptoms forcing patients to seek multiple consultations with different practitioners in different health insitutions in order to obtain relief. Fluorescein staining of the cornea can alert the clinician to the presence of a FB and prompt a more through search leading to its discovery and removal.

Acknowledgements. I thank the staff at Highlands Eye Clinic for their support in evaluating Case 1 and the technician who set up the adapter for mounting the android phone on the slit lamp to enable anterior segment photography of this FB.

References

1. Quirke PDG. Needle-like subtarsal foreign bodies. South African Medical Journal 1963;37(9):942-944.
2. Madhusudhana K, Chakraborty P. Missed subtarsal FB in a patient presenting with ocular injury; Am Fam Physician 2005 May 15;71(10).

We thank everyone who contributed to this issue especially Francis Malwal, Noella Mogga, Peter Newman, Ben Parkin, Peter Ratcliff and Mark Roberts.

A living WHO guideline on drugs for COVID-19

See an enlarged version on the back, page 30

Updates

WHO has produced an update to the living guideline on drugs for COVID-19 in the article published by by BMJ. It replaces earlier versions (4 September and 20 November 2020) and supersedes the BMJ Rapid Recommendations on remdesivir published on 2 July 2020. The previous versions can be found as data supplements. New recommendations will be published as updates to this guideline. (BMJ 2020;370:m3379 https://www.bmj.com/content/370/bmj.m3379) Click for updates.

Readers note This is the third version (update 2) of the living guideline (BMJ 2020;370:m3379). When citing this article, please consider adding the update number and date of access for clarity.

Abstract

Clinical question What is the role of drug interventions in the treatment of patients with COVID-19?

New recommendation The latest version of this WHO living guidance provides strong recommendations against the use of hydroxychloroquine and lopinavir-ritonavir in patients with COVID-19 regardless of disease severity. These recommendations follow the publication of results from the WHO SOLIDARITY trial.

Recommendations This guidance adds to recommendations for corticosteroids and remdesivir published in the previous versions, with no changes made in this update: (a) a strong recommendation for systemic corticosteroids in patients with severe and critical COVID-19, (b) a conditional recommendation against systemic corticosteroids in patients with non-severe COVID-19, (c) a conditional recommendation against remdesivir in hospitalised patients with COVID-19.

How this guideline was created WHO has partnered with the non-profit Magic Evidence Ecosystem Foundation (MAGIC) for methodologic support, to develop and disseminate living guidance for COVID-19 drug treatments, based on a living systematic review and network analysis. An international standing Guideline Development Group (GDG) of content experts, clinicians, patients, and methodologists produced recommendations following standards for trustworthy guideline development using the GRADE approach. No competing interests were identified for any panel member.

Understanding the new recommendation When moving from the to the strong recommendations against the use of hydroxychloroquine and lopinavir-ritonavir in patients with COVID-19, the panel was informed by a living systematic review and network meta-analysis of 30 trials with 10 921 participants for hydroxychloroquine and seven trials with 7429 participants for lopinavir-ritonavir. The trials for both drugs included inpatients and outpatients. Moderate certainty evidence for both drugs demonstrated no reduction in mortality or need for mechanical ventilation. There was also low certainty of evidence for harm with both drugs, including diarrhoea and nausea/vomiting. The panel did not anticipate important variability when it comes to patient values and preferences. In addition, the panel decided that contextual factors such as resources, feasibility, acceptability, and equity for countries and health care systems did not alter the recommendation.

Successful treatment of a 5-year-old with burns through the Provision of Essential Health Services Project, Ulang, South Sudan

Panom Puok Duoth Kier[1] and Reat Jock Banguot[2]

1. Health Manager, South Sudan Agency for Internal Development (SSAID), Juba, South Sudan.
2. Health Project Officer, Lot 5, Provision of Essential Health Service Project, Ulang, South Sudan

Correspondence:
Panom Puok Duoth Kier
panompuokduoth@gmail.com

Submitted: November 2021
Accepted: January 2021
Published: February 2021

Background

In South Sudan health services are sparse making it very difficult for some communities, especially in isolated areas, to access care. To mitigate this the Ministry of Health (MOH) and partners are implementing Primary Health Care (PHC) services with support from donor organizations including the World Bank.

The Provision of Essential Health Services Project (PEHSP) started in July 2019 in Upper Nile and Jonglei States.[1] Since then many lives have been saved through a variety of interventions. One example is **Nyaduoth Jock Chuol**.

Nyaduoth Jock was a 5-year-old girl living in the village of Pare in the Western part of Yomding Payam, 20 kilometres from Ulang County, Upper Nile State. Pare village has a population of about 1500 and most earn a living mainly by farming and cattle rearing. Pare community accesses its health services at Rupboard Primary Health Care Centre (PHCC) seven kilometres away. This often made it very difficult for mothers and children to get the needed healthcare and especially so in the rainy season when flooding cuts communication with Rupboard.

One day **Nyaduoth Jock** was playing around the kitchen where she climbed on a wall and accidently fell into a saucepan containing twenty litres of hot water. She sustained serious burns to about 32% of her body affecting especially her abdomen (9%), back (9%), legs

Figure 1. Reat Jock Banguot (Health Project Officer for Lot 5) on his way to Pare to do a home visit to check Nyaduoth.

Citation:
Kier and Banguot, Successful treatment of a 5-year-old with burns through the Provision of Essential Health Services Project, Ulang, South Sudan. South Sudan Medical Journal 2020; 14(1):22-23

(4%) and hands (6%), where the skin peeled off. This caused extreme alarm to the family who were frightened, confused and not knowing what to do.

However, Nyaduoth's mother, Madam Nyakoang Tong suggested rushing **Nyaduoth** to Rupboard PHCC in case her life could be saved. So, in spite of the long journey, the parents took her there where she was admitted and the necessary care was started by the health workers and the on-duty Clinical Officer **Yien Thomas Maluth**.

During this time her parents, especially her father, were worried that their daughter may die or develop long term complications such as contractures from the burn injury.

How Nyaduoth Jock's burns were treated [2,3]

According to South Sudan Treatment Guidelines for burns injury, the following treatments were given:

- Cloxacillin 250 mg orally 4 X per day for 7 days
- Intravenous Ringer Lactate (RL) 2 ml/kg X 32% (BSA) plus maintenance fluid (alternation of Ringer Lactate and 5 % glucose) for two days
- Paracetamol 250 mg orally 4 X per day
- Silver Sulfadiazine cream applied to the affected body parts 2 X per day
- Wound care with 0.9% Saline.

After staying for ten days in Rupboard PHCC, Nyaduoth showed signs of improvement. This made the parents gain confidence in the services being implemented under PEHSP. After a further four days she had continued to progress well and was discharged with scars but no serious complications and, in particular, no contractures. **Reat Jock Banguot**, Health Project Officer, later visited the family at home - see Figures 1 and 2.

Nyaduoth's parents thanked the health workers for saving their daughter's life and the entire community of Pare was very appreciative of the implementing partners, the South Sudan Agency for Internal Development (SSAID), for the lifesaving services that were provided in Rupboard PHCC and the other supported health facilities.

Figure 2. Nyaduoth, her father Jock Chuol, and Reat Jock (Health Project Officer for Lot 5) during a visit to her home in Pare (Photo was taken with Nyaduoth's father's permission).

References

1. Project Document (PD) Provision of Essential Health Services Project (PEHSP)
2. Standard Treatment Guidelines (STGs) 4. Hospital May 2019 Ministry of Health, Republic of South Sudan
3. Médecins Sans Frontières. Clinical guidelines diagnosis and treatment manual for curative programme in hospitals and dispensaries, guidance for prescription

Provision of Essential Health Service Project (PEHSP) is a World Bank project being implemented in Upper Nile and Jonglei States. This project was launched on July 1, 2019 to support the Ministry of Health (MOH) especially the County Health Department (CHD) in the delivery of essential Primary Health Care services to the affected populations. The funding is being managed by UNICEF and implemented by Implementing Partners (IPs) among which the South Sudan Agency for Internal Development (SSAID) is one. Geographically the areas under the two States are divided into Lots (1 to 10) and in each lot there are two or three Consortium partners. SSAID and the other two Consortium partners (Universal Network for Knowledge and Empowerment Agency, UNKEA and Malaria Consortium, MC) are Lot 5 Consortium members supporting two Counties (Ulang and Nasir) in Upper Nile State. SSAID and UNKEA are supporting a total of 21 health facilities (7 in Ulang and 14 in Nasir) while MC is supporting the delivery of Community Health Services through the Boma Health Initiative (BHI) especially in the targeted Bomas in both Ulang and Nasir Counties.

Preparing for MRCP UK examinations for International Medical Graduates (IMGs)

Zerihun Demissie Tefera
Speciality Doctor in Medicine of the Elderly, NHS Lothian, Royal Infirmary of Edinburgh

Submitted: November 2020
Accepted: November 2020
Published: February 2021

Abstract

The MRCP UK examination is one of the most difficult for UK graduates. International Medical Graduates (IMGs) will find it even harder for a variety of reasons.

I moved to the UK in 2010 after leaving an international public health career. Travelling from one country to another with a family had become difficult. After GMC registration in 2011, I worked for three years as a foundation doctor followed by being a locum. In August 2014, I secured a permanent non-training post as a Clinical Fellow in Medicine of the Elderly at the Royal Infirmary of Edinburgh. I started preparing for the MRCP UK examinations in 2016 and completed all three examinations by October 2018. This article is a reflection of my personal experience navigating through these examinations written with the intention of sharing helpful information with fellow IMGs aspiring to succeed in the MRCP UK examinations.

Key words: International Medical Graduates, MRCP UK examinations, Practical Assessment of Clinical Examination Skills (PACES), examination preparation, feedback.

Introduction

The Membership of the Royal Colleges of Physicians of the United Kingdom (MRCP UK) examination is one of the most difficult for UK graduates. International Medical Graduates (IMGs) will find it even more challenging for various reasons. For example: - English not being their first language, - completed undergraduate medical study several years ago, - having worked in resource-constrained settings or in nonclinical roles, - not currently working, - currently working but not on a formal training programme, and/or time pressure because of family or other commitments.

I decided to record my experience of preparing and sitting for the MRCP examinations as I felt it could be useful for IMGs who aspire to pass this exam. I moved to the UK after leaving an international public health career because travelling from one country to another with a family became difficult. After obtaining General Medical Council (GMC) registration I wanted to do a hospital clinical job and spend the rest of the time with my family. During an interview for a Clinical Fellow post in Care of the Elderly, I was asked if I had the MRCP. My answer was "no". Was I planning to take the MRCP examinations? I said "yes". I started preparing in 2016 and completed the three examinations by October 2018. While I passed the MRCP written examinations in the first attempts, I needed four attempts to pass the PACES examination.

For anyone preparing for the MRCP UK examinations, a detailed amount of information is available on the MRCP UK website. It is important to read this information before and during preparation for the different stages of this examination.

Preparing for MRCP 1 & 2 exams

Format of the examination

MRCP 1 & 2 are written examinations, each with 200 questions taken under

Citation:
Tefera. Preparing for MRCP UK examinations for International Medical Graduates (IMGs). South Sudan Medical Journal 2021; 14(1):24-27

formal invigilated arrangements. MRCP 1 deals more with knowledge of basic science and medical facts: it is important to realise that it has 25 questions on "Clinical Science" dealing with anatomy, physiology, pharmacology genetics and statistics. MRCP 2 is mainly about analytical skills, clinical judgment and application of clinical knowledge. Both examinations cover the breadth of general medicine and the various specialities. It is worth paying attention to the MRCP UK webpage which describes the "format" of the examinations indicating the different specialities, number of questions and the percentage weight of each speciality.

The best way to prepare for the written examinations is by doing thousands of MCQs. A subscription to one of many online MRCP examination questions and working on these are invaluable. I used the British Medical Journal (BMJ) On Examination for part 1 and for a change PassTest for the part 2. The content of both online materials was excellent. After answering each question, right or wrong, feedback follows. This was extremely valuable to consolidate my knowledge.

A very useful function of this online learning is that you can customize the way you want to study. You can choose the number of questions you want to work out at a time, choose mixed questions across the specialities or choose a specific speciality upon which to focus. As you progress with your studies it monitors your overall score on a graph with a grid indicating where the pass mark sits. An indication of your strengths and weaknesses across the specialities is also provided. This enables you to concentrate on areas where you are scoring low. Once you have worked through a sufficient number of questions, you can test yourself using the online mock examination under examination conditions. You can do as many mock examinations as you want.

I learnt a great deal from online examination MCQs but it was crucial to attend a course for both written examinations. I attended a 5-day course during the month before sitting each examination. These courses covered basic clinical science and subspecialties such as radiology, dermatology, rheumatology. I found going away for a course particularly useful as I got a protected time to focus, revise and learn. You also meet and can share experience with other candidates.

The MRCP UK Practical Assessment of Clinical Examination Skills (PACES) examination

PACES is a clinical skill assessment examination with two examiners observing and marking independently while a candidate interacts with a patient or a surrogate. Each candidate will go through five stations and a total of seven clinical skills will be assessed. To enhance your chances of passing this examination thorough and focused preparation is vital. There are certain essential aspects in this preparation:

1. Familiarity with the examination format: The MRCP website gives an excellent description of how the examination is organised. However, reading about the format and actually sitting the examination are different matters. The setup of PACES is complicated. The best way to understand what actually happens on the day is attending a PACES course with a mock examination set up in exactly the same manner as the actual examination. This will reduce the anxiety about the process. Knowing this is one less stress and could enhance your chance of success.

2. Familiarity with competencies that are tested: the PACES examination tests clinical examination skills in station 1 and 3 and your communication skills in station 2 and 4. In station 5 (integrated clinical examination) both communication and examination skills are tested. All seven skills are tested in this station and it carries most marks. This is clearly shown on each station marking sheet and are downloadable from the MRCP UK website. It is useful to familiarise yourself with the various competencies that are assessed and how they are marked.

3. Clinical practice for the examination: This is a vital part of PACES preparation and much preparation time should be dedicated to it. The best way is to practise with someone who is also preparing for PACES (a PACES buddy). This enables mutual feedback and learning. With your PACES buddy, your practice needs to cover the various competencies and skills in clinical examination and communications. If you are on a formal training programme, rotating through the various specialities will create opportunities to acquire broader clinical skills and competencies. However, if you are not and are always working in one speciality, then you need to frequently go to different wards (e.g. gastrointestinal, renal, cardiology, respiratory and neurology) to practise clinical skills on patients with physical signs. This means going to see patients in the evening and weekends. Depending on your personal gap in examination skills arranging to sit in a specialist clinic could also be very useful. I arranged to sit in Parkinson's, cardiology, respiratory and kidney transplant clinics and it was all worthwhile. These are termed high yield clinics as most frequent PACES cases appear from such clinics.

Practising for communication skills requires the same level of attention as the clinical examination skills. Practising with a PACES buddy in a role-playing model and using PACES mark sheets yields a high benefit. Once the consultation is finished, the person who was acting as a patient will fill the mark sheet and give feedback to the other candidate. For the communication station, what I found equally effective was to practice with a family member who acted as a patient and gave feedback at the end of the consultation. For the history and ethics stations, I printed all the communications scenarios on the MRCP

website and role-played each of them. This practice and the feedback at the end of each of the consultations were extremely valuable. Beyond communications skills, these consultations helped me to develop skill in terms of timing, pacing and wrapping up the consultation.

Additionally, practising for PACES under the observation of a consultant or a registrar is an effective approach for preparation. I have had several opportunities to be observed by different consultants (some of whom are PACES examiners) and registrars with greatly helpful feedback. Therefore, wherever you are working, it is worthwhile to explore PACES teaching conducted by consultants and registrars.

4. PACES courses: Next to practising for PACES, attending a PACES course in the weeks prior to the examination increases your chances of success. The key advantages of a PACES course are:

a. to understand the examination process and timing. Going through a mock examination will allow understanding of what to expect on the day;

b. boost communication and clinical examination skills and competencies;

c. opportunity to practise eliciting uncommon clinical signs and discussing diagnosis and differential diagnosis; and

d. meet with fellow candidates and share experiences.

There are several PACES courses available in the UK. While some take place during the week others are conducted over weekends or evenings. I attended an excellent 3-day PACES course organised by the Royal College of Physicians Edinburgh (RCPE) and NHS Lothian.

The RCPE also runs free PACES classes at the College venue once a year. It is lecture-based teaching delivered by PACES examiners over three separate evenings each lasting 90 minutes. It covers the examination format and the competencies assessed at individual stations. While this is a very informative lecture, it is no substitute for a PACES course. The RCPE usually live-stream their lectures to various centres within the UK and globally. You can check on their website if there is a centre listed for live-streaming close to where you live.

5. PACES preparation aids: there are plenty of resources (books, audios and videos) for PACES preparation. PACES preparation books come at different sizes, volumes and prices. I bought two books: one small and one large. However, I used "Cases for PACES" which is a small volume PACES book during most of my preparation time. It is pocket-sized and you can take it to the ward to aid with practice. If your budget is limited, I would recommend having one of the smaller volume books..

There are some useful free materials on YouTube. An example is PACEStv posted by Leicester University. There are also PACES audio-visual online materials on a subscription basis and they cover all five PACES stations in the same timed manner as the PACES examination. These materials cover a broad range of cases that appear in the examination and watching them helps learning and understanding the format of the examination. However, the purpose of these aids is to help with the preparation and practising clinical skills and one should avoid the temptation to spend a large chunk of study time on reading, watching or listening without actually practising.

6. The week prior to the examination: preparing for PACES while working and engaging in family life can be both emotionally and physically exhausting. Therefore, you need to prepare yourself to arrive on the day with stamina and confidence. During the last week keep practising for PACES. However, you should avoid night shifts just prior to your examination. Try to get adequate sleep in the nights before your examination. Prior to your trip check you have your examination admission paper, photographic ID, and a stethoscope. (All the other examination equipment you need will be available in the examination rooms). Travel one day in advance of your examination date unless you are living in the same town. On this day have a break from studying and try to relax during the trip and on arrival. Consider visiting the hospital where you will be having the examination. By now you have prepared more than enough, and you deserve to rest. Get to bed early and try to get a good night sleep. Travelling several days in advance of the examination, studying to the last minute and lack of sleep affected my performance during one examination sitting and I would stongly discourage such actions.

7. On the day of the examination: report on time at the hospital venue. You will receive a group briefing with other candidates. Listen carefully and follow the instructions. You could be starting at any of the five stations. In stations 2, 4 and 5 you will have written instructions outside the examination room. Read these instructions and prepare yourself in the five minutes before you go into the room. These are 5 precious minutes and make the best use of them to prepare yourself using the clinical information you are given. You will be provided with paper and a pencil. Jot down your ideas regarding how to approach the clinical situation and the patient you are about to meet. For the stations 1 and 3, you will be given simple instructions once inside the room. So, remain seated outside until five minutes have passed. There are facilitators standing outside the examination rooms who will guide you around to the different stations.

Also, feel free to ask the facilitators if you feel uncertain about where to go or what to do. If you are well prepared and fortunate on the day you will sail through every

station. However, you may encounter a difficult station/s and you might feel disheartened about your performance. Do not allow these feelings to hamper your performance on subsequent stations. Bear in mind each station is a separate examination and marked accordingly. Seven skills and competencies are assessed across individual stations. Even if you truly fail in one or two stations you can compensate in subsequent stations. Additionally, in the stations where you felt you underperformed, you will still be collecting points that will add to the overall mark.

8. Endnotes: On the days before you are going to sit for PACES, you probably have been doing your day job of talking to and examining patients, requesting investigations and treating them. You might have been doing it for many years. Do exactly the same thing in the examination. Treat the patient (or surrogate) sitting in front of you or lying in bed next to you as your own patient. Be kind and considerate to them and you will get full marks in every station for maintaining patient welfare (one of 7 skills tested). And think: "what best can I do to make this person feel and get better?" Try to demonstrate the skills and behaviour that you practise every working day. When your time is up, thank the patient, help him or her to dress and turn to face the examiners. Stand straight up, look confident, listen to the examiner's questions carefully and answer with a clear voice. If you do not know the answer, then say so. You will be given a chance for further questions. In the heat of the examination it is difficult to be yourself. However, try to be calm and be yourself and you will achieve more.

After the examination, if you feel you did not do well then you are feeling just as many candidates who have been through PACES do. It will take about ten working days before the results are released. In the meantime, take a well-deserved break from study and examinations.

Transparency declaration: This article is a reflection of my experience of the MRCP UK examinations process.

Professor James Gita Hakim

The world renowned South Sudanese academician, cardiologist and HIV researcher Professor James Gita Hakim died on January 26th, 2021 in Harare, Zimbabwe, from COVID-19 related complications.

Professor Hakim was a member of the South Sudan Medical Journal's Editorial Board and a long-standing supporter of the journal.

He studied at Makerere University, the University of Nairobi; University of Newcastle, Australia; the University of Cape Town and did a post-doctorate in Cardiology in Germany. He was a fellow of the Royal Colleges of Physicians of London and Edinburgh. In 2016 he was awarded a Doctor of Science Degree in Medicine by University College London. In 2019, he received the Ward Cates Spirit award in the US for his outstanding commitment and leadership in health, scientific excellence and generosity in mentorship and support.

Professor Hakim was actively involved in clinical work, biomedical research and national and international programmes. He had diverse research interests including HIV/AIDS, Opportunistic Infections and Cardiovascular Diseases. He authored/co-authored more than 150 articles, book chapters and scientific communications. He was a member of several national and international organizations encompassing regulatory, advisory, programmatic and scientific portfolios.

He was the foremost heart specialist and Professor of Medicine at the University of Zimbabwe (UZ) College of Health Sciences. He was Chair of Medicine (2000-2006) and Principal Investigator of the PEPFAR/NIH supported UZCHS Medical Education Partnership Initiative (2010-2016).

Mr. Samkange, veteran surgeon and director of the UZ Institute of Continuing Health Education described Professor Hakim's death as a huge blow to the country. "He has left a void that will be so difficult to fill. Our heartfelt gratitude to his family for sharing him with us; we pray that they are comforted in this very arduous time."

Dr. Eluzai Hakim, Founder of the South Sudan Medical Journal says, "Professor James Hakim made an enormous contribution to the development of the College of Physicians of East, Central and Southern African in collaboration with the International Department of the Royal College of Physicians in London. The College is now undertaking the training of high quality future African physicians in the region and remains one of his legacies in postgraduate medical training."

Dr. Hakim adds, "James was a generous man who put the interests of his family and extended family above his own. As a go-getter he worked in his own time in addition to his contracted job at the University of Zimbabwe to raise funds to support the education of his siblings in universities in India and South Africa. In addition, he continued paying school fees for his nieces and nephews in South Sudan until he fell ill. He supported the South Sudan virtual physicians' fora by attending all their meetings through zoom which our younger colleagues appreciated very much. He contributed enormously to shaping a paper I wrote in November 2020 proposing the establishment of a South Sudanese Master of Medicine programme in various specialties and had agreed to sit on the proposed oversight committee to oversee the development and implementation of the programme. Despite his workload he always found time to advise and collaborate on projects that benefitted our society."

Professor Hakim leaves a wife, Phoebe and four sons, Eric, Neil, Frank and Colin, to whom all those at the South Sudan Medical Journal send condolences.

Dr. Edward Eremugo Kenyi

Editor-in-Chief

South Sudan Medical Journal

Dr. Elsa Bojo Paulino Loggale

On 6 January 2021, the Ophthalmological Association of South Sudan (OASS) lost one of her active and upcoming members in the untimely death of Dr. Elsa Bojo Paulino Loggale at the Coptic Medical Center in Nairobi. Dr. Elsa Bojo was a 3rd Year Post Graduate Student studying for a Master of Medicine Degree in Ophthalmology at the University of Nairobi, Kenya.

Dr. Elsa was born on 25 July 1980 to father Chief Paulino Loggale and mother Silvia Poni Simon, both of the Bari tribe in Central Equatoria State. She attended primary and secondary education in 1987 – 1998, after which she joined the University of Juba, College of Medicine, to study for an MBBS degree that she attained in 2005. Following a period of internships between 2005 – 2007, she rotated through several hospitals in Khartoum, Sudan, and Juba, South Sudan. She was registered as a Medical Practitioner and then appointed as a medical officer. She then worked in various positions and departments in Juba Teaching Hospital.

In 2015 she was offered a scholarship to study for a Master of Medicine Degree at the Department of Ophthalmology, University of Nairobi. Soon after, she becomes an associate member of the Ophthalmological Association of South Sudan (OASS).

Her teachers liked Elsa as a humble, hardworking, and dependable registrar. She attended several training workshops and became a member of the College of Ophthalmology for East, Central, Southern Africa (COECSA) and the International College of Ophthalmology (ICO). She did her research on the prevalence and pattern of significant refractive errors among students attending public secondary schools in Juba, South Sudan

In 2019 Elsa was diagnosed with breast cancer while in Egypt. She started hormonal therapy with a good response. But on 4 January 2021, she suddenly became sick and was admitted to the HDU at Coptic Medical Centre in Nairobi, Kenya. She had developed metastasis to the chest and had pleural and pericardial effusions. Despite aggressive treatment of these complications, our colleague died on 6 January 2021.

Dr. Elsa was a mother, a colleague, and partner in eye care; she held a lot of promise to our effort to advance eye care in South Sudan. Her death has robbed South Sudan of a brilliant, focused, and forward-looking medical professional who would have contributed immensely to the improvement of health care in the country

"She held a lot of promise to our effort to advance eye care in South Sudan."

Dr. Elsa was laid to rest on 15 January 2021 at her family house in Nyokuron West in a ceremony attended by family, colleagues, government officials, and Bari and Nuer communities. We thank and appreciate all our colleagues for supporting the family and working so hard to give Elsa a befitting burial.

Dr. Elsa is survived by her husband Molana Mut Turuk Thok and five children. May her soul rest in eternal peace.

For and on behalf of the Ophthalmological Association of South Sudan (OASS) and South Sudanese doctors.

Dr. Kenneth Lado

Chairman OASS

A living WHO guideline on drugs for covid-19

BMJ 2020;370:m3379 https://www.bmj.com/content/370/bmj.m3379 Click for updates.

Visual summary of recommendation

Population

This recommendation applies only to people with these characteristics:

Patients with confirmed covid-19

Disease severity

Non-severe	Severe	Critical
Absence of signs of severe or critical disease	SpO_2<90% on room air	Requires life sustaining treatment
	Respiratory rate >30 in adults	Acute respiratory distress syndrome
	Raised respiratory rate in children	Sepsis
	Signs of severe respiratory distress	Septic shock

Interventions

Hydroxychloroquine	Recommendation against (strong)		
Lopinavir-ritonavir	Recommendation against (strong)		
Remdesivir	Recommendation against (weak)		
Corticosteroids	Recommendation against (weak)	Recommendation in favour (strong)	