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5-1, Jalan USJ 9/5M,
Subang Business Centre,
47620, Subang Jaya,
Selangor, Malaysia.
Phone: +603 80241629 Mobile: +6012-902 9493
Email: manipalmaam@gmail.com
www.manipal.org.my

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EDITORIAL NOTE

Dear Readers,

Manipal Alumni Association of Malaysia is one of the largest and most active alumni in Malaysia. For a long time the focus had been on fellowship and now we as an Alumni have diversified. The Manipal Alumni Science & Health Journal (MASH) is now publishing the 4th edition since its launch in 2014 by the then Minister of Health, Malaysia, Y.B. Datuk Seri Dr S Subramaniam.

MASH focuses on editorial, original research work, opinion papers, case reports, update/review articles belonging to different disciplines of medicine, health and science. The Journal is available online and access is free of cost to all Members and Associate Members of the Manipal Alumni Association of Malaysia (MAAM). The Journal can be accessed for a fee by non-Manipal Alumni members or associate members.

Medical Education in our country is seeing numerous challenges and hurdles and is impacting on our delivery of health services for Malaysia. There seems to be glut of new graduates with 39 Medical Universities churning out about 5000 medical graduates a year and this is not counting those from overseas Universities. My new medical graduates have to wait 8 months to a year for a posting and this is a real challenge to them and their families. Their classmates from school are already driving their own cars and buying houses and preparing to get married. Is doing medicine as lucrative a profession as it once was? Should we encourage the younger generation to look at alternative career choices? A rough estimate at my University suggests that at least 20% of students have a parent or close family member who is a Doctor. Very often this can be influential in the decision making process. It would have been a proud and gratifying thought that your child, nephew or niece is following in your footsteps. I believe that feeling needs a careful reconsideration.

The medical curriculum has expanded immensely from what it was when I was a medical student. The expectation of faculty and assessments are far more rigorous than before with the introduction of One Best Answers (OBAs), Objective Structured Clinical Exams (OSCE), Extended Matching (EMQ) and Modified Essay Questions (MEQ). Stress levels of medical students is a real concern and all Medical Universities need a full team of counselors for support. I think the whole process for medical education and preparation of candidates for medical education needs to be relooked at. Graduate entry may ensure more mature determined students who can better cope with the stressors. It is a common practice in most developed countries and I believe Malaysia may need to consider this step forward.

Thank you to all the members of the Editorial Board and look forward to working with all of you in trying to eventually make the MASH indexed. I do hope that more Researchers, Clinicians, Students and Scientists will consider sending their articles to the Manipal Alumni Science & Health Journal. We hope you enjoy this 4th Volume and best wishes to everyone for the rest of 2019 from all of us in the Editorial team.

Professor Dr. Philip George

Editor, on behalf of the MASH Journal Editorial Board

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CASE REPORT

Drug-induced Ocular Manifestations Arising From Neuroleptic Use

Sherina Quay (MBBS) [1,2], Nor Higrayati AK (MS Ophth) [1], Mushawiahti Mustapha (MS Ophth, F'ship Vitreoretinal diseases) [2]

Corresponding Author : Sherina Quay, Pusat Perubatan Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Kuala Lumpur, Wilayah Persekutuan
sherquay@gmail.com

Key Words: Chlorpromazine, Stellate Cataract

ABSTRACT

A 52-year-old gentleman with underlying schizophrenia, on long-term treatment and maintaining well with chlorpromazine over the past 20 years, presented to Ophthalmology clinic with bilateral gradual blurring of vision associated with glare for three years. His right eye vision was 6/12, which improved with refraction to 6/6, and vision was 6/6 on the left side. Both eyes were dry, as evidenced by the presence of punctate epithelial erosions. There were diffuse yellowish-brown endothelial and stromal deposits on the cornea and stellate cataract bilaterally. Only artificial-tears were prescribed. The case was discussed with his psychiatrist and chlorpromazine was switched to olanzapine. Upon review at 6 months, his vision had improved. Punctate epithelial erosions had resolved but corneal and lenticular deposits were found to have persisted. This case report serves to increase the awareness of chlorpromazine-induced ocular toxicities among primary care practitioners and junior doctors.

[1] Hospital Sultanah Nur Zahirah, Kuala Terengganu.
[2] Pusat Perubatan Universiti Kebangsaan Malaysia, Kuala Lumpur.

INTRODUCTION

Chlorpromazine, is a low-potency conventional neuroleptic used to treat various psychiatric disorders, especially schizophrenia.[1,2] Chlorpromazine is phototoxic and increases melanin production. Therefore, over long period of consumption, it can cause skin and ocular pigmentation, mainly in sun-exposed areas such the lens, corneas, conjunctiva and eyelids.[2] These changes were first reported by Greiner & Berry in 1964.[3] Other low-potency neuroleptics namely thioridazine and fluphenazine have also been reported to cause pigmentary changes, but characteristic corneal and lenticular pigmentation is predominantly a side-effect of chlorpromazine.[4]

CASE REPORT

A 52-year-old gentleman with underlying diabetes mellitus and schizophrenia, diagnosed 30 years ago, was on long-term oral chlorpromazine at a dose of 400mg nocte. He responded well to this treatment, with no psychiatric relapse in the past 20 years. He presented to Ophthalmology clinic with a complaint of bilateral gradual blurring of vision, associated with glare for three years. On examination, visual acuity in the right eye was 6/12, which improved with refraction to 6/6; and 6/6 on the left. Both eyes were dry evident by presence of punctate epithelial erosions (Figure 1). There were diffuse yellowish-brown endothelial and stromal deposits (Figure 2) on the cornea and stellate cataract (Figure 3) bilaterally. No conjunctival hyperpigmentation was seen. Anterior chambers were quiet and intraocular pressures were normal. Fundus examination showed bilateral moderate non-proliferative diabetic retinopathy with dry maculopathy; however, no pigmentary retinopathy was seen. Artificial tears were prescribed and after discussion with his psychiatrist, chlorpromazine was changed to the newer generation olanzapine and upon review 6 months later, his vision had improved to 6/6 bilaterally and symptoms of glare had reduced. The punctate epithelial erosions had resolved; however, the corneal and lenticular deposits persisted.

DISCUSSION

Chlorpromazine first became available for the treatment of psychosis in November 1952.[5] The recommended dosage in adults suffering from psychosis, such as schizophrenia and mania, ranges from 100mg to 1000mg per day.[6] These patients mostly require long-term treatment and therefore in 1960s there were reports on the long-term effects of chlorpromazine[7,8]. Greiner and Berry described the long-term ocular effects of chlorpromazine in addition to the cutaneous changes in 70 female patients who had been taking 500mg to 1500mg of chlorpromazine daily for at least 3 years.[3]

The ocular findings include granular opacity of the corneal stroma and lens, which later forms central stellate cataract. Alexander et al. (1985) found that anterior capsular and

subcapsular lens pigmentation were more common than corneal pigmentary changes with prevalence of 67% and 45% respectively.[1] Delong et al. (1965) also noted lenticular changes in about half the patients with cumulative doses of 1000g - at higher doses, 18% showed corneal and conjunctival changes.[9] The extent of pigmentation has been attributed to the dosage and duration of phenothiazine administration.[2,9,10] Thaler et al. (1985) showed a correlation between the severity of pigmentation and the dose of administration.[10] Lenticular pigmentation was graded to five stages, ranging from isolated, brownish, dust-like specks on the anterior lens surface to stellate cataracts which may impair visual acuity.[10] The stellate pattern, described as a central dense area with radiating branches as seen in this patient, characterizes Grade IV lenticular changes. Corneal deposits almost inevitably occur in those who have lens opacities of the higher grades. Grades I and II lens opacity have little or no corneal involvement.[11] Corneal pigments are localized to posterior stroma, Descemet's membrane and endothelium suggesting drug distribution from the aqueous humor.

Phenothiazines were found to be more 50 times more concentrated in the ocular tissues than other tissues in the body.[11] They bind to melanin granules in the uveal tissue and retinal pigment epithelial cells (RPE).[12] It is hypothesized that when exposed to ultraviolet rays, chlorpromazine denatures protein causing it to precipitate and deposit in the corneal stroma, lens, conjunctiva, retina and skin.[13] There is also an increase in the number and melanin content of melanin cells contributing to the pigmentary changes.[11] Pigmentary retinopathy however, is very rare.

These changes are rarely evident when the total cumulative dosage is less than 500mg, where as in those who require daily dosages of more than 800mg daily, lenticular changes are seen as early as 14-20 months of treatment.[10] In this patient, although the total cumulative dosage exceeded 500mg, there was no skin discoloration. Similar case was also reported by Subashini & Rao (2004) who suggested that only patients with impaired glucuronide conjugation of chlorpromazine and its metabolites are susceptible to skin changes.[4] Pigmentary corneal and lenticular deposits are irreversible[2,4,11] but they rarely affect visual acuity, although glares and halos are common.

In our patient, only punctate epithelial erosions resolved upon discontinuation of chlorpromazine, with the aid of artificial tears. Punctate epithelial erosions are fine, depressed lesions which stain with fluorescent dye. They represent loss of superficial epithelial cells seen in various conditions such as trauma, inflammation, exposure or toxicities[14]. Diffuse involvement of the cornea as seen in this patient is characteristic of drug toxicity[14]. Chlorpromazine, a cationic amphiphilic drug,[15] induces intra-lysosomal accumulation of phospholipids,[14,16] causing significant corneal toxicity ranging from superficial punctate erosions to corneal ulcerations and delays in corneal re-epithelialisation[16]. Epithelial keratopathy showing whorled appearance (Figure 1) likely reflects the epithelial turnover as they migrate from limbus to the center of the cornea.

Punctate epithelial erosions and corneo-lenticular deposits caused by systemic drugs are usually asymptomatic and rarely impair vision. Therefore, they are not absolute indications for cessation of therapy. However, close observation is mandatory to reduce risk of visual loss from further complications.

CONCLUSION

Chlorpromazine-induced ocular toxicities should be suspected in any patient presenting with visual blurring and glare. It is hoped this report would increase the awareness of this condition in the primary care setting.

FIGURES:

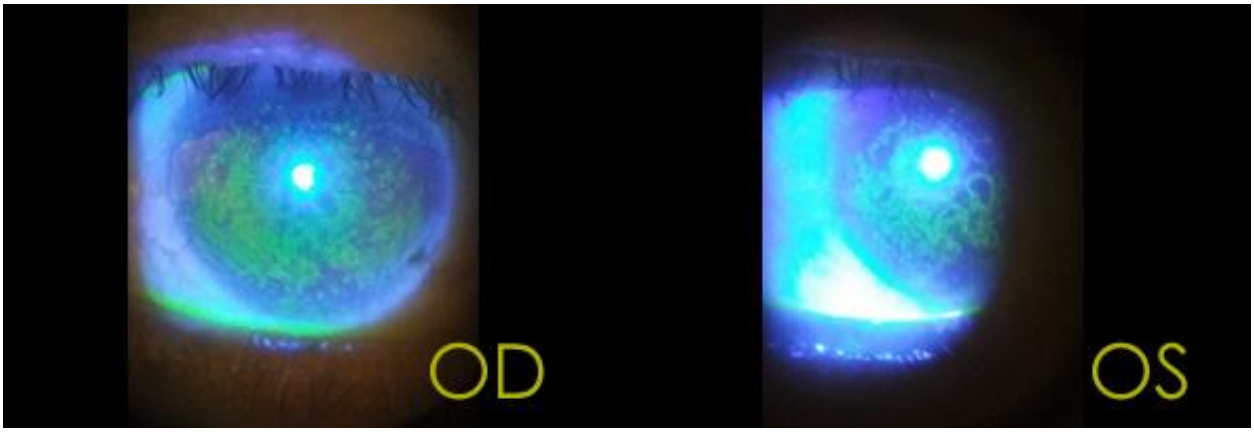

FIGURE 1: Bilateral dense punctate epithelial erosions in whorl-like pattern.

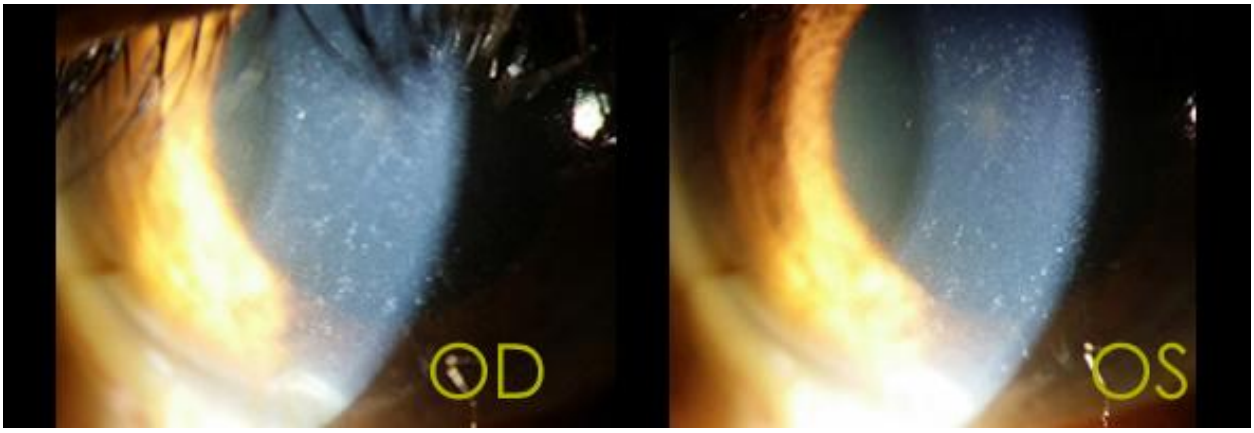

FIGURE 2: Anterior segment photos of bilateral eyes showing endothelial and stromal deposits on the cornea

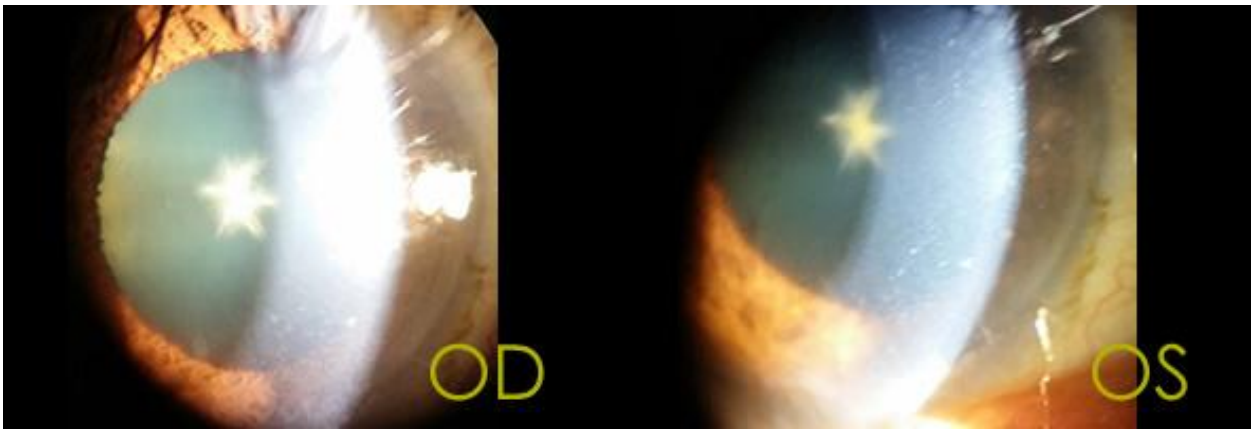

FIGURE 3: Anterior segment photos of bilateral eyes showing stellate cataract.

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CASE REPORT

A Case Report On Spontaneous Pampiniform Plexus Thrombosis - Rare Cause Of Acute Scrotal Swelling In Adult

William Ong Lay Keat (MBBS, MRCS)[1]**, Shamsuddin Omar**(FRCS)[2], **Han Pei Kwong** (FRCS)[3]

Corresponding Author : Dr. William Ong Lay Keat, Urology Trainee Malaysia
Tel: +6016-4951331 (Email address: William_olk@hotmail.com)

Key Words: Scrotal Pain, Pampiniform Plexus Thrombosis, Ultrasound Doppler, Anticoagulant

ABSTRACT

INTRODUCTION

Acute scrotal pain is a urological emergency where clinical judgement of the treating physician plays a pivotal role in diagnosing the case. Scrotal swelling and pain secondary to spontaneous pampiniform plexus thrombosis is rare, and there are only twenty cases reported so far in the literature. We are the first who have reported this in the Asian region.

METHODS & RESULTS

We present an unusual case of pampiniform plexus thrombosis diagnosed in a 50-year-old man who presented with left sided scrotal pain and swelling. His physical examination was unremarkable except there was tenderness and minimal swelling over left hemiscrotum on

[1] Department of Urology, Hospital Sultanah Aminah, Johor Bahru, Malaysia
[2] Department of Urology, Hospital Sultanah Aminah, Johor Bahru, Malaysia
[3] Urology Regency Hospital, Johor Bahru, Malaysia

palpation. The diagnosis was confirmed by an ultrasound doppler imaging. Our patient was then treated medically with anticoagulant and good clinical results was obtained.

CONCLUSION

Pampiniform plexus thrombosis is an uncommon clinical entity in urology. Uncomplicated thrombosis could be managed non-surgically with good clinical outcome and radiological evolution. Ultrasound doppler remains first line investigations to establish diagnosis, monitor the progression and treatment outcome.

INTRODUCTION

Acute scrotal pain is the most common urological emergency which renders a vast array of differential diagnoses. The usual conditions include epididymoorchitis, testicular torsion, hematocele, infected hydrocele, pyocele and necrotic testicular malignancy. Testicular torsion should always be ruled out in the event of young patients until proven otherwise.[5] Scrotal swelling or pain secondary to spontaneous pampiniform plexus thrombosis is rare, and there are only 20 cases reported so far in the literature. Spontaneous thrombosis of pampiniform plexus was initially described by Senn (1902 & 1904) and then reported by McGavin in 1935.[1] We are the first who report this in Asian region.

CASE PRESENTATION

We are reporting a middle- aged patient, presented with left sided scrotal pain and swelling for one week. The pain had begun insidiously and increased in intensity gradually. He had no fever or vomiting. He also denied any urinary or bowel symptoms. There was no similar episode previously. His past medical and surgical history were unremarkable. On examination, bilateral testes were palpable and left epididymis appeared to be swollen. The tenderness was located at the left hemiscrotum, along with the left spermatic cord. The remaining physical examination including abdomen were normal with intact hernia orifices. His full blood count showed mild leukocytosis and coagulation profile was normal. Ultrasound testis and scrotum was performed on the same day of consultation revealed a left pampiniform plexus thrombosis. Ultrasound of the abdomen was normal. The patient was admitted to the urology ward and prescribed with low molecular weight anticoagulant enoxaparin sodium 60mg given subcutaneously twice a day. He was also given intravenous antibiotics amoxicillin-clavunate to cover for orchitis. The pain subsequently reduced and swelling subsided. Repeat ultrasound was done 6 days later showed resolution of pampiniform plexus thrombosis. This patient was planned for continuation of oral anticoagulant (tablet warfarin 3mg daily) for total duration of one month. No further follow up was deemed necessary.

DISCUSSION

Diagnosis sometimes can be challenging in case of scrotal swelling with pain. It can be misdiagnosed as testicular torsion, orchitis or even incarcerated inguinal hernia, which in turn resulted in unnecessary surgical intervention.[2,3] Spontaneous pampiniform plexus thrombosis is among the very few reported events. Left sided thrombosis is the more common feature based on the cumulative case reports. The exact pathophysiology is unknown, however, theoretically anatomical factors for the preponderance of varicocele of left side might explain the prevalence of left side occurrence. The left gonadal vein drain into left renal vein perpendicularly renders it higher risk of greater pressure but lower blood flow.[4] Vicrow's triad is responsible for the pathology of thrombus formation. Raised intraabdominal pressure might reduce the gonadal vein blood flow, therefore consequences in creating stasis and thrombosis. Other etiologies such as retroperitoneal tumours, incompetent valves, compression of renal vein by superior mesenteric arteries were among rare cause of thrombosis. [4,5] Medical conditions like hypercoagulable state ought to be considered as well. However, in our case, we could not determine any cause or risk factors for this patient.

The commonest preoperative diagnosis was a complicated inguinal hernia among all the reported cases, and most of them had undergone surgical exploration.
More than half of the patients went through surgical excision. In 1985, Roach et al. reported that the patient who was treated with excision had resulted in orchidectomy due to venous congestion and hematoma. Therefore, in this context, conservative treatment may be considered as one of the better management strategies.

Due to restricted references in the literature, there are no guidelines for the management of pampiniform plexus thrombosis. It is important to determine the causes of the thrombosis. Several investigations have been outlined in the previous case reports include doppler ultrasonography, detailed CT imaging, blood screening or even surgical exploration to establish the causes. However, examination with ultrasound doppler should be the first line as it is a non-invasive and sensitive means to establish the diagnosis. In this case, ultrasound doppler helps to provide us a clear diagnosis. Once diagnosis is confirmed, anticoagulant should be prescribed to treat thrombosis unless contraindicated. Repeat imaging with ultrasound doppler is adequate to monitor the progress of disease and treatment outcome. In our opinion, MRI or even computed tomogram is not necessary due to the risk of radiation, cost, with no added benefits. There is no role to excise the thrombosed plexus, as evident by the good results obtained in our case and at least three other cases.

CONCLUSION

Pampiniform plexus thrombosis is indeed an uncommon clinical entity in urology where the management remains controversial. The pathophysiology is not very well understood. Good history taking, proper examination and precise investigations are required to confirm diagnosis of acute scrotal pain. Ultrasound doppler remains the first line investigation to establish the diagnosis of thrombosis. In this clinical case study, spontaneous pampiniform plexus thrombosis may be safely and effectively managed conservatively with anticoagulant.

FIGURES:

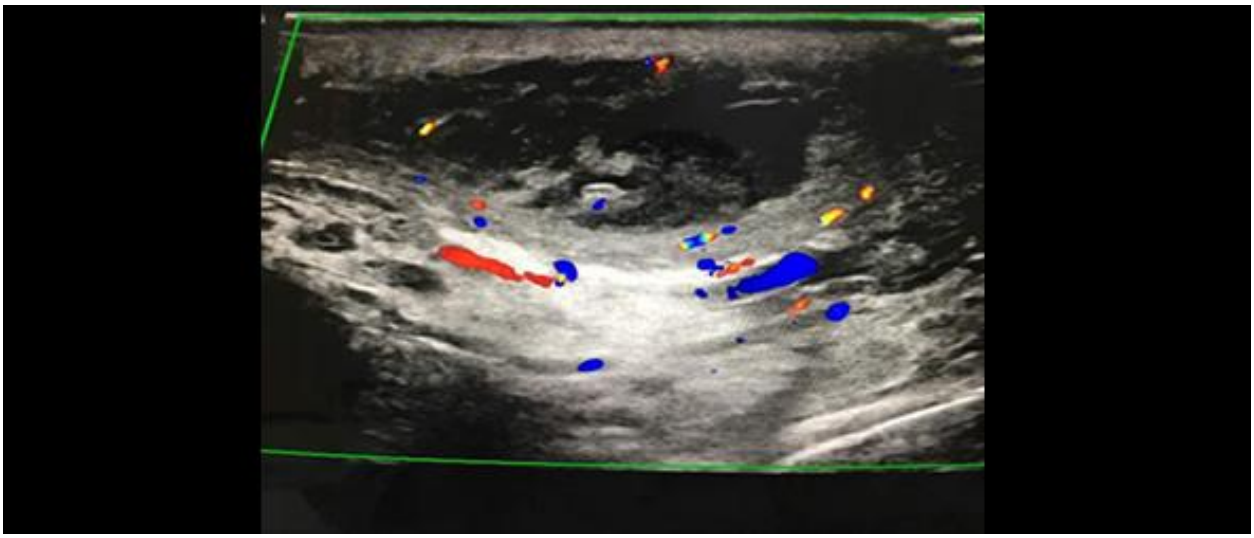

Figure 1: (above): Sagittal view ultrasound of left testis showed normal homogenous parenchymal echotexture. There was no obvious focal lesion seen with the testicular parenchyma. However, the left scrotal sac was edematous and thickened. (Below):Ultrasound doppler scrotum revealed engorged, dilated and slow flow of pampiniform plexus of left testis. There are some areas of none or sluggish flow suggestive of thrombosis. There was a focal dilated vein in the most inferior part of left scrotal sac.

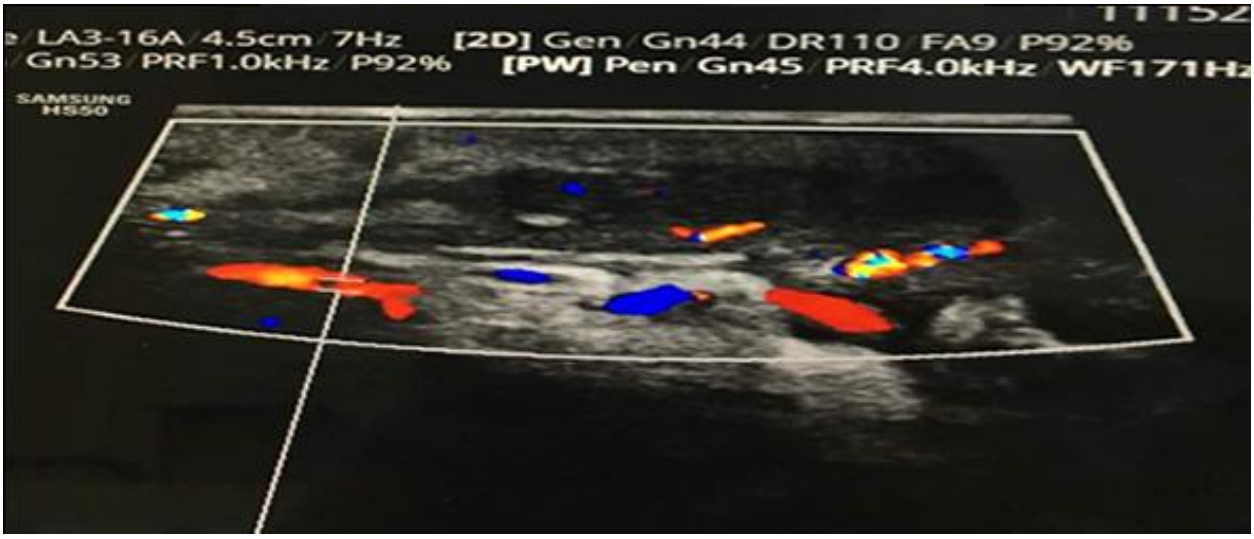

Figure 2: Ultrasound performed on day 6 demonstrated less echogenicity in the previous engorged and dilated pampiniform plexus. It showed good doppler signal and features consistent with resolution of left pampiniform plexus thrombosis.

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CASE REPORT

Scleral Abscess With Necrotizing Scleritis: A Complication Of 23-Gauge Vitrectomy.

Sherina Quay (MBBS)[1,2], Maizan Yaakub (MS Ophth, Fellowship in Vitreoretinal diseases)[1], Rosiah Muda (MS Ophth, Fellowship in Medical Retina), Mushawiahti Mustapha (MS Ophth, Fellowship in Vitreoretinal diseases)[2]

Corresponding Author: Sherina Quay, Pusat Perubatan Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Kuala Lumpur, Wilayah Persekutuan sherquay@gmail.com *H/P No.: 016-7701457*

Key Words: Scleral abscess, Necrotizing scleritis, Vitrectomy

ABSTRACT

A 63-year-old gentleman, a high-myope and a known case of obstructive uropathy and recurrent urinary tract infection, recently underwent undergone 23-gauge trans-conjunctival vitrectomy for right subtotal rhegmatogenous retinal detachment with myopic macular hole. On fourth post-operative day, he presented with a two-day history of right eye pain, redness and swelling, associated with fever, chills and rigors. Initially treated as post-operative endophthalmitis with orbital cellulitis, a localized swelling at the supero-nasal part of conjunctiva was noted as his condition improved and scleral abscess was suspected. Conjunctival exploration and scleral debridement showed the presence of scleral abscess with areas of scleral thinning and necrosis.

Scleral abscess with necrotizing scleritis is a rare complication following 23-gauge vitrectomy and is difficult to manage. However, intensive topical and systemic antibiotics with surgical debridement may shorten the course of the disease and improve the visual outcome.

[1] Hospital Sultanah Nur Zahirah, Kuala Terengganu.
[2] Pusat Perubatan Universiti Kebangsaan Malaysia, Kuala Lumpur.

INTRODUCTION

Scleritis is an inflammatory disorder of the sclera that could threaten vision[1]. It may be idiopathic, autoimmune or infectious in etiology.[2,3] Infectious scleritis represents only 5-10% of all scleritis and the overall visual outcome is generally worse in infectious scleritis than in the autoimmune variety[3]. Ocular surgery, trauma and self-inoculation from a distant site on the body[4] are important inciting factors. However, few cases have been reported to occur spontaneously in immune-suppressed individuals.[3,5] We report a rare case of scleral abscess with necrotizing scleritis following 23-gauge vitrectomy in a man with recurrent urinary tract infection.

CASE REPORT

Our case is about a 63-year-old gentleman, a known case of obstructive uropathy and recurrent urinary tract infection with no other medical problems. He is a high-myope and his left vision has been poor due to recurrent total retinal detachment. He recently underwent 23-gauge trans-conjunctival vitrectomy for right subtotal rhegmatogenous retinal detachment with myopic macular hole. He had silicone oil tamponade with suturing of the sclerostomy wounds using vicryl 8-0. Five days after the procedure, he presented with history of right eye pain, redness and swelling, associated with fever, chills and rigors, for a two-day duration. Examination showed visual acuity of 2/60 and only hand movement perceivable respectively in the right and left eyes. His extra-ocular movements were restricted in all directions of gaze and the upper lid was swollen, while the conjunctiva was injected and chemosed. The anterior chamber was deep, with cell count of 4+ but there was no hypopyon or fibrin. There was also no keratic precipitates or posterior synechiae. Fundus examination showed silicone-oil filled cavity with flat retina. Septic workout and auto-immune screening was negative. He was treated as post-operative endophthalmitis with orbital cellulitis but computed tomography of the orbit revealed right preseptal cellulitis. After 2 weeks of intravenous ciprofloxacin, his condition improved but a localized swelling at the supero-nasal part of conjunctiva was noted (Figure 1), bringing about the suspicion of a diagnosis of scleral abscess. Conjunctival exploration and scleral debridement showed the presence of scleral abscess with areas of scleral thinning and necrosis (Figure 2). Intravenous ciprofloxacin was completed for a course of two weeks and topical antibiotics tapered off gradually as the infection gradually resolved over a period of two months. His vision, unfortunately, remained at 2/60.

DISCUSSION

Infectious scleritis is generally necrotizing and which can have anterior and posterior involvement[3]. Pseudomonas aeruginosa is the commonest causative agent., representing 85% of cases[6]. Other reported organisms include gram negative bacilli, Nocardia, Klebsiella and fungi.[2,3] These organisms utilise neutrophil-activated collagenases to destroy and infiltrate ocular tissues[2]. Scleral abscesses formed are difficult to treat due to their anatomical structure of dense collagen fibers and avascularity of the sclera,[3] which limit both topical and systemic antibiotic penetration.

Management is challenging and therefore, measures should be taken to prevent infective scleritis. It is important to avoid over-cauterisation and adjunctive therapy during ocular surgeries so that episcleral blood flow is spared for better wound healing and resistance to infection.[7] Hodson et al (2013) in their study on various antimicrobial treatment regimens, reported that medical therapy was adequate as the sole treatment in only 18% of patients despite a mean treatment duration of 50 days.[8] Enucleation and evisceration rates were also higher in those solely medically-treated.[9]
Therefore, early surgical debridement has been advocated in many studies suggesting that it provides maximum exposure for topical antibiotics and reduces infective load, with adequate re-epithelialization occurring shortly after debridement.[10,11,12] Moreover, the area of involved sclera is consistently larger intra-operatively than is initially judged clinically. This further supports the importance of surgical exploration.

CONCLUSION

Scleral abscess with necrotizing scleritis is a rare complication following 23-gauge vitrectomy and is difficult to manage. However, intensive topical and systemic antibiotics with surgical debridement may shorten the course of the disease and improve the vision outcome.

FIGURES

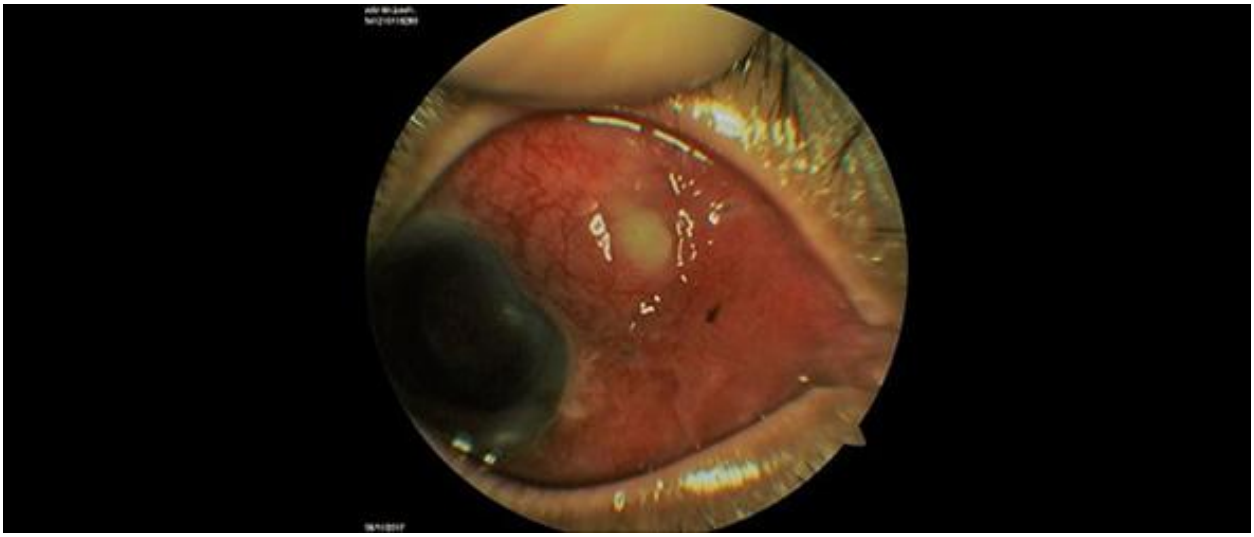

Figure 1: Localised swelling at supero-nasal part of conjunctiva.

Figure 2: Post-debridement. Area of scleral thinning and necrosis

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CASE REPORT

Antibiotic Resistance In Clinical Isolates Of Pseudomonas Aeruginosa.

Nazrul MHM [1]

Corresponding Author : Nazrul MHM, Graduate School of Medicine, Perdana University, Jalan MAEPS Perdana, 43400 Serdang, Selangor, Malaysia
poorpiku@yahoo.com

Key Words: Antibiotic Resistance, Clinical Isolates, Pseudomonas Aeruginosa, Multidrug Resistance

ABSTRACT

Pseudomonas aeruginosa is an important pathogen causing severe and life threatening infections. Fifty-five clinical isolates of *Pseudomonas aeruginosa* were collected from Sungai Buloh Hospital, Selangor, Malaysia. Thirty percent of the isolates were identified from pus (30%) followed by respiratory tract (24%), and urine (17%). All isolates were subjected to biochemical tests to re-identify them and confirm the presence of *P. aeruginosa* in our laboratory. The antibiotic susceptibility profiles of all the isolates were determined using Kirby-Bauer disk diffusion method as recommended by CLSI. Quinolones (ciprofloxacin) were found to be the most active antimicrobial agent with 82.24% susceptibility followed by Imipenem (81.11%), aminoglycosides (amikacin 70.28%, gentamicin 69.24%) and the beta-lactams (Cefepime 65.92%, Ceftazidime 25.49%). Piperacillin showed the maximum resistance (55%) followed by Ceftazidime (31.11%). It was also found that, 30% of the *P. aeruginosa* strains were resistant to one antibiotic, 16% strains were resistant to two antibiotics and 44% were multidrug resistant. *P. aeruginosa* isolated from pus (42%) and blood (21%),showed the highest rate of multidrug resistance.

[1] Graduate School of Medicine, Perdana University, Jalan MAEPS Perdana, 43400 Serdang, Selangor, Malaysia

INTRODUCTION

Pseudomonas is found in nature and its widespread occurrence was observed early in the history of microbiology. Members of the genus Pseudomonas bacterium are widely distributed in nature, but the most common human pathogen is *Pseudomonas aeruginosa*. (*P. aeruginosa*). It is an important pathogen causing severe and life threatening infections in immunocompromised hosts, such as patients suffering from chronic respiratory disease (Cystic Fibrosis) and malignancies on chemotherapy. Moreover, it is currently the leading cause of nosocomial infections and is with associated high mortality rates. One reason for this high mortality is its notable resistance to many currently available antibiotics. Yet, comparative analyses of the emergence of resistance associated with different classes of antipseudomonal drugs are lacking, even though knowledge about the relative risks of resistance with different antibiotics could be useful in helping to guide therapeutic choices [1].

Since antibiotic resistance is a serious problem, ongoing surveillance of *P. aeruginosa* resistance against antimicrobial agents is fundamental to monitor trends in susceptibility patterns and to appropriately guide the clinician in choosing empirical or directed therapy, especially when new antimicrobial agents may not be readily available in the near future [2]. However, there are few recent surveillance studies reporting antimicrobial resistance patterns of *P. aeruginosa* in few locations in Malaysia [3]. Over the past few years, a notable increase in antibiotic resistance among gram negative bacteria recovered from hospitalized patients has been reported, especially for critically ill patients [4]. Infections caused by multidrug resistant (MDR) gram negative bacteria, especially MDR *P. aeruginosa* have been associated with increased morbidity, mortality and costs [5]. Multidrug-resistant strains of *P. aeruginosa* are often isolated among patients suffering from nosocomial infections particularly those receiving intensive care treatments [6].

The main objective of this study was to determine the antibiotic resistance among *P. aeruginosa* clinical isolates from patients admitted to Sungai Buloh Hospital, Malaysia and also to determine the prevalence of multidrug resistance among these isolates.

MATERIALS AND METHODS

Fifty-five clinical isolates of *P. aeruginosa* strains were collected from different patients who were admitted to Sungai Buloh Hospital, Selangor, Malaysia between June 2016 and December 2016. The source of the isolates were different clinical specimens, including pus, urine, respiratory fluids, blood, tissue and genitalia. All the clinical isolated samples were identified as *P. aeruginosa* by the hospital personnel. After collection, we carried out conventional biochemical tests at our multi-disciplinary laboratory to re- identify all the isolates [7] i.e., gram staining, catalase test, oxidase test, motility test, Triple Sugar Iron Assay, citrate test, urease test and indole test etc.

ANTIBIOTIC SUSCEPTIBILITY TESTING

The Kirby-Bauer disk diffusion method [8] was used to determine the antibiotic susceptibility of all the isolates. The antibiotics tested were Gentamicin (10 µg), Imipenem (10 µg), Amikacin (30 µg), Piperacillin (100 µg), Ciprofloxacin (5 µg), Ceftazidime (30 µg), Cefoperazone (75 µg), Piperacillin / Tazobactam (110 µg), Meropenem (10 µg), and Cefepime (30 µg). Results of disk diffusion method were interpreted in accordance to the Clinical and Laboratory Standards Institute (CLSI, 2009).

RESULTS

The sources of clinical specimens from patients of Sungai Buloh Hospital are shown in the Table 1 below:

Source	**Percentage of *P. aeruginosa***
Blood	13%
Pus	30%
Respiratory	24%
Tissue	8%
Urine	17%
Sputum	4%
Genitalia	4%

Table 1. Percentage of isolated from various clinical specimens

The antimicrobial susceptibility testing revealed that *P. aeruginosa* strains were highly sensitive to most of the antibiotics tested, which are shown in Figure 1.

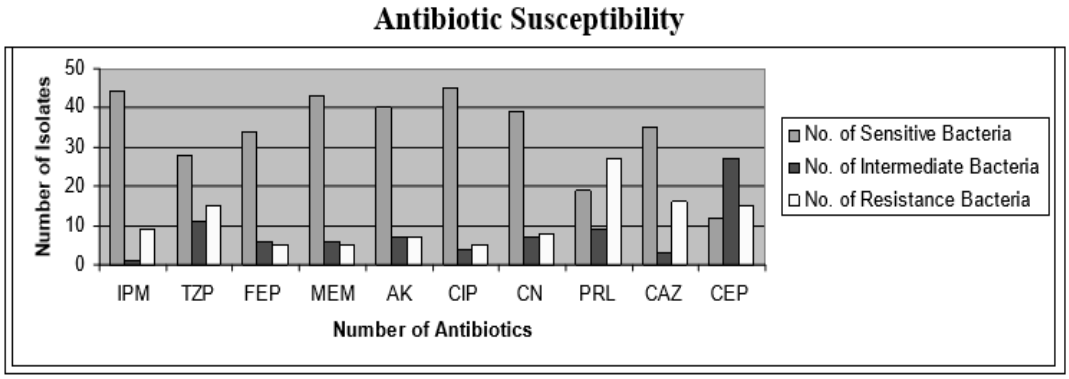

Figure 1. Number of bacterial strains based on antibiotic susceptibility

The percentage of sensitivities were Ciprofloxacin (82.24%), Imipenem (81.11%), Amikacin (70.28%), Gentamicin (69.24%), Cefepime (65.92%), Ceftazidime (25.49%), Meropenem (59.42%), Piperacillin (44.29%), Cefoperazone (20.34%), Tazobactam 10/piperacillin 75 (59.26%).
The percentage of resistance were Ciprofloxacin (10.20%), Imipenem (26.60%), Amikacin (14.27%), Gentamicin (13.12%), Cefepime (10.20%), Ceftazidime (25.13%), Meropenem (10.20%), Piperacillin (55%), Cefoperazone (29.28%), Tazobactam/piperacillin (29.28%).

Source of Specimen	Number of specimen	Number of MDR isolates
Blood	8	4
Genitalia	2	0
Pus	17	8
Respiratory tract	15	2
Tissue	2	0
Urine	8	3
Sputum	3	2

Table 2. Presence of multidrug resistant isolates (MDR) based on specimen type.

DISCUSSION

With the widespread and indiscriminate use of antibiotics, *P. aeruginosa* has become a leading cause of gram-negative bacterial infections especially in immunosuppressed patients who need prolonged hospitalization [9]. *P. aeruginosa* infection is a serious cause of nosocomial infections. The increasing rate of *P. aeruginosa* strains in a wide spectrum of clinical steering's determine them as emerging pathogens, especially in intensive care units (ICUs) and justifies the necessity for antimicrobial-resistance surveillance. Periodic antimicrobial resistance monitoring in *P. aeruginosa* infection is fundamental to updating the current activity level of commonly used antipseudomonal drugs [2].

While detecting the antibiotic resistance in this present study, it was found that the out of 55 clinical *P. aeruginosa* isolates, 17 strains were identified from pus followed by 15 strains from the respiratory tract. Ciprofloxacin was found to be the most effective agents (82.24% sensitivity) followed by Imipenem (81.11%). In a different study in Malaysia carried out by other researchers, 83.5% of the *P. aeruginosa* isolates were found to be sensitive to Ciprofloxacin followed by Imipenem (79.4%) and Meropenem (77.3%) [2]. It was reported that the majority of Meropenem-resistant *P. aeruginosa* showed resistance to Imipenem, but almost half the Imipenem resistant strains were susceptible to Meropenem. Moreover, the strains resistant to Meropenem were also resistant to Ciprofloxacin and Carbenicillin [10]. Imipenem has been reported to be very active against *P. aeruginosa* in a number of recent studies [11] while other has reported otherwise [12].
The rationale of using two active antibiotic agents instead of one may lead to improved outcomes in view of its theoretical synergistic activity. However, data on the use of combination versus single drug therapy for *P. aeruginosa* infections are mixed but overall, the best current evidence suggests that there is no additional benefit of a second active agent [13].

In our study, the percentage of resistance were ciprofloxacin (10.20%), Imipenem (26.60%), Amikacin (14.27%), Gentamicin (13.12%), Cefepime (10.20%), Ceftazidime (25.13%), Meropenem (10.20%), Piperacillin (55%), Cefoperazone (29.28%), Tazobactam/piperacillin (29.28%). A study done in another tertiary care hospital in Malaysia [3] showed the rates of antimicrobial resistance of isolates were 6.73% to Amikacin, 12.9% to Gentamicin, 10.1% to Netilmicin, 10.9% to Ceftazidime, 11.3% to Ciprofloxacin, 9.9% to Imipenem, 10.8% to Piperacillin, 9.4% to Piperacillin-tazobactam and 0% to Polymyxin B while 5.74% of the strains were found to be multidrug-resistant. Raja et al., reported a low incidence of Piperacillin resistance (10.8%) compared to our findings (55%) but Ciprofloxacin had higher resistance rate than the present study [3]. Similarly, another study showed the resistance of Piperacillin was 54.66% [13]. Drug resistance levels in different hospitals in Malaysia and other countries too have been reported in the past and antibiotics in the respective hospitals are recognized to the differential usage. When we compared to previous Malaysian studies [3], our studies showed higher resistance rates to all drugs tested except Ciprofloxacin and Imipenem. Among the 54 clinical isolates of *P. aeruginosa* tested in our study, many strains were found

to be multidrug-resistant (MRD). In this study it was found that 29% of the *P. aeruginosa* strains were resistant to one antibiotic, 20% strains were resistant to two antibiotics and 51% were multidrug- resistant. The resistance to antibiotics of the investigated problematic strains of *P. aeruginosa* was higher than the mean *P. aeruginosa* resistance found in Malaysia [3]. In this study, *P. aeruginosa* isolated from blood, urine and sputum showed the highest rate of multidrug resistance. The correlation between the multidrug resistance and the site of infection may be an important reason leading to differing results when compared to other surveillance studies in Malaysia. As we did not perform a detailed clinical review of each case, we were unable to determine which isolates were of clinical significance requiring a change in antibiotics. We recognize the importance of determining which isolates were true infections, which were likely colonizers as this can impact the true drug resistance patterns in our study.
Recently characterised drug resistance mechanism, which includes biofilm-mediated resistance and formation of multidrug-tolerant persister cells may explain our high antibiotic resistance rates observed. This was not specifically analysed however as this was not within the scope of our study design.

In summary, eradication of *P. aeruginosa* has become increasingly difficult due to its remarkable capacity to resist antibiotics. Ciprofloxacin was found to be the most active antimicrobial agent followed by imipenem. Piperacillin showed the maximum resistance. Fifty-one percent of the isolates were multidrug resistant. *P. aeruginosa* isolated from pus, blood, urine and sputum showed the highest rate of multidrug resistance. This study will help to carry out further research in future. Knowledge of antibiotic resistance is important and our results will be very useful in recognizing the potentialities of various antibiotics in clinical settings.

This study was reviewed by an internal research committee and they did not feel it required ethical approval.

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CASE REPORT

Complications Of Penile Clamp Circumcision: Cases Reported In A Tertiary Hospital Malaysia

William Ong Lay Keat, Shamsuddin Omar[1]

Corresponding Author : Corresponding Author: Dr. William Ong Lay Keat, Urology Trainee Malaysia
Tel: +6016-4951331 (william_olk@hotmail.com)

Key Words: Circumcision, Clamp-Assisted Circumcisions, Penile Clamp, Penile Edema

ABSTRACT

Introduction: Circumcision is one of the most frequently performed urological surgeries among pediatric age-group patients in Malaysia. Recently, clamp-assisted circumcisions have gained much interest among locals due to its potential advantages. In this paper, we present a case series of children who developed complications from the penile clamp after ritual circumcision.

Methods and outcomes: A total of six children were referred and admitted to our hospital in December 2017 due to complications of penile clamp circumcision. The complications included persistent active bleeding, wound infection, penile edema and post procedural pain. All of them were able to pass urine and discharged well after treatment.
Conclusion: Risk-reduction strategies should include skill training among the medical professional who conduct circumcision, choosing the appropriate size of penile clamps, raising awareness on early recognition and avoidance of potential difficult cases. Prompt referral to an urologist should be made if complications occur.

[1] Department of Urology, Hospital Sultanah Aminah, Jalan Persiaran Abu Bakar Sultan, 80100 Johor Bahru, Johor, Malaysia

INTRODUCTION

Circumcision is one of the most widely performed surgeries in the world, including Malaysia, a country which has a large population of Muslims. Circumcision can be performed either for medical indications such as phimosis, recurrent balanoprostitis or for ritual purpose. In Malaysia, many boys are traditionally circumcised at the school-going age. There are several methods of circumcision from the conventional dorsal slit technique, penile clamping to sutureless glue.

There are many different types of penile clamps available in the current market. A penile clamp is defined as a medical device used solely for circumcision. A basic clamp unit consists of two parts: the inner and outer parts. These two parts will clamp the inner and outer foreskin together, effectively cutting off blood supply to the distal part of the foreskin. After the administration of local anaesthesia and cleansing with an antiseptic, an appropriate-sized clamp is then chosen and applied. The foreskin is excised during the procedure, leaving the clamp intact. Subsequently, the clamp will need to be removed in five to seven days.

In this paper, we are reporting a case series of complications of circumcision following the penile clamping method.

MATERIALS AND METHODS

A total of six patients were referred and admitted to our Department of Urology, Hospital Sultanah Aminah in December 2017 due to complications incurred by penile clamp circumcision. These patients, whose ages ranged from 8 to 11 years old, had undergone circumcision conducted by the general practitioners previously. All of them were hospitalized and managed in our Pediatrics urology ward. The patients' referral letters, medical records, investigations and operative notes are reviewed. All the patients are then followed up in the outpatient urology clinic after they were discharged from the hospital.

RESULTS

Out of the six children, two required immediate surgical intervention in view of active bleeding from the wound. The first boy, who was eight years old, presented to us on postoperative day 2 with active hemorrhage despite being packed with gauze in the lumen of penile clamp. He was attended immediately by the urology trainee. The parents of the child were counselled for surgical exploration keeping in view of penile wound repair. The patient was brought to operation theater after liaising with the anaesthetist team. The patient was placed in supine position under general anaesthesia and the penile device was unclamped and removed on table. The blood clots were evacuated, and it revealed a relatively small buried phallus. The hemostasis was done with bipolar diathermy and

refashioning of the penile skin was then performed. Postoperatively, the child was progressing well and his wound was clean. He was discharged after 2 days without an indwelling catheter. The similar situation occurred in the second patient who was 9 years old. Urgent exploration, clot evacuation and hemostasis were performed immediately after the patient presented to us for active bleeding 7 hours after clamp circumcision in a private clinic.

The other 2 patients were admitted due to mild bleeding from the penile clamping wound. The penile clamp lumens were flushed regularly to prevent clot formation blocking the external urethral meatus. They were treated conservatively as the bleeding stopped spontaneously. The penile clamps were removed on day-5 post procedure. They were discharged well. We observed that the use of the inappropriate size of the clamping devices had resulted in inadequate tamponade of the prepuce; thus it led to the wound hemorrhage in these patients. On the other hand, one patient came with penile edema and erythema after day-2 of post-penile clamp circumcision. He was also treated with an analgesic and antibiotic as in-patient. Subsequently, the edema subsided and his clamp was removed prior to discharge.

Only one of these patients presented with infected wound over the penis post-2 weeks of clamp circumcision. Initially his wound was covered with slough and normal saline dressing was carried out three times per day in the ward. The wound eventually became clean after the chemical debridement. The child was discharged to health clinic for daily dressing.

DISCUSSION

Circumcision is widely practiced due to its numerous benefits. Cultural practices make it a common practice in Southeast Asia as it is believed as the right passage into manhood. Thus, new technologies have been invented to simplify the circumcision procedure, particularly in the form of clamping devices. There are various types of clamps available in the market, such as Plasti Bell, Gomco clamp, Mogen clamp, Smart clamp, Tara clamp and Shang Ring. The diversity of circumcision techniques is the result of the search for more practical, cost effective and less complicated methods.[3,5] The relative accessibility of these devices has gained popularity among the private practitioners or medical personnel who conduct circumcision in their own settings. Many studies have showed that circumcision with clamping devices is indeed simple, faster and cosmetically better. According to Karadag et al, clamping device method carries similar complication rate as conventional surgical procedures and results in longer mucosal length, penile edema and higher parental anxiety.[1] Other literature also cited that the clamping assisted circumcision is not spared from the potential complications including bleeding, infection, inadequate skin removal or penile glans injury if it is not handled properly.[4] In fact, the most common complication manifested is hemorrhage whereas the most serious is glans amputation. Bleeding episode

rate is slightly higher in clamping technique compared to conventional surgical circumcision (6% vs 4%).[1] In this paper, we did notice that most of the applied clamp devices were not fitting into the size of the phallus, thus contributing to its failure. The inappropriate size clamps were not able to provide the 'clamping or tamponade' effect after the prepuces had been incised. Two of our patients experienced worse degree of bleeding that required immediate exploration, hemostasis and repair of the dehiscence wound. In our series of cases only in 1 case of infection was reported. Penile pain and erythema would probably be the event of inflammatory changes after circumcision.

CONCLUSION

The aim to achieve safe, time-saving, minimal pain and faster recovery in terms of circumcision has bought the idea of clamping devices. The penile clamp might represent the comparable or at least not inferior method compared to surgical suturing technique. With the commercial availability of these penile clamps, the rate of complications might increase further. However, the proper size of clamp placement and the potential difficulties recognition especially in the children with anatomical variants, obese patients, or buried penis are of paramount importance. Penile clamp circumcision should be done by experienced hands with caution. The patients encountered with complications secondary to the penile clamp should always be referred early to urologist for further management and care in time.

FIGURE

Figure 1: This illustrates the active oozing and blood clots from the lumen of penile clamp when the patient arrived at the Emergency Department

Figure 2: this illustrates the 11-year-old boy post 2 weeks of penile clamp circumcision who presented with infected wound

Figure 3: this depicts the post circumcision bleeding and adherent clots around the wound edges. The patient complained of penile edema and pain

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Poster Abstracts Accepted for the MAAM Medical & Surgical Symposium 2019 held at Weil Hotel, Ipoh on the 20th of July 2019

ABSTRACT

Acute Duodenal Stenosis Post Trauma: Conservative Approach- A Case Report

Navinder Singh, John Emmanuel, Nurdaliza Mohd Badarudin

INTRODUCTION

Duodenal stenosis post trauma is rare but it should be considered in patients presenting with upper gastrointestinal obstruction following trauma.

OBJECTIVE

We share our experience in managing a case of duodenal stenosis post trauma in a 12 years old girl at our centre.

CASE REPORT

A 12 year old girl presented to the referring hospital for abdominal pain following an MVA. CT Abdomen/Pelvis revealed Grade 2 liver with Grade 1 splenic and suspicious pancreatic injury. She was treated conservatively and discharged after 5 days. She presented on Day 17 post trauma with recurrent bouts of bilious vomiting. Repeat CT Abdomen/Pelvis revealed resolving solid organ injuries, no evidence of duodenal hematoma or mass. She was referred to us due to persistent bilious aspirates and was managed in intensive care. We proceeded with an Upper GI contrast series showing hold up at the D2 D3 junction. Complementary sonography excluded presence of a duodenal hematoma. She responded to conservative treatment over the next 4 days with reducing nasogastric aspirates and was discharged home.

DISCUSSION

Duodenal injuries account for 2-3% of blunt abdominal trauma cases in children. Age - related factors including a poorly developed anterior abdominal wall, retroperitoneal attachment of the duodenum, a rich vascular plexus in the duodenal wall and its position to the lumbar spine predisposes to duodenal injuries. The diagnosis of duodenal injury or hematoma is based on clinical features of a high intestinal obstruction post trauma. In these cases, the force generated on the duodenal wall upon impact to the spine initiates a

hematoma. This hematoma may grow gradually, hence its delayed presentation. This results in either a complete or partial duodenal stenosis. However, in our case both sonography and CT excluded the presence of a hematoma despite upper contrast series showing an obstruction at that level. Conservative management was successful in this case.

CONCLUSION

Acute duodenal stenosis post trauma in children is rare. As exhibited in our case, a conservative approach can be successful.

ABSTRACT

Expanding Erythema Over Hemiscrotum : Amyand's Hernia? – A Case Report

Jessmine Anntinea[1], Najua Ramli[2], Muthu V

INTRODUCTION

Less than 1% of all inguinal hernia cases are Amyand Hernia and from this, only 0.13% have inflamed appendix. Few opinions have been postulated regarding mechanism of appendicitis in inguinal canal. Amyand's hernia is most often diagnosed intra-operatively since the presenting symptoms can be similar to testicular torsion or inflammation even with ultrasonography.

CASE REPORT

A 3 month old boy, who was known to have reducible right inguinal hernia, was admitted to a district hospital for right scrotal swelling for 3 days associated with reduced oral intake. His upper scrotum was noted to be erythematous on physical examination. Child was referred and transferred to a Paediatric Surgical unit. Upon arrival to Paediatric Surgery Unit, erythema was noted to have spread to contralateral hemiscrotum and upwards to right lower abdomen. Abdominal radiograph did not show dilated bowel or gas in hemiscrotum. Patient was subjected to right herniotomy and findings were consistent with perforated appendix. Appendectomy was done through herniotomy incision. Patient was observed in Intensive Unit post-operatively for fear of sepsis but he recovered uneventfully.

DISCUSSION

Diagnosis of Amyand's hernia is almost always intra-operative but expanding erythema should raise suspicion of this diagnosis – prompting more aggressive resuscitation and post-operative observation.

[1] justmean7891@gmail.com, Hospital Sultanah Aminah, Johor
[2] Hospital Sultanah Aminah, Johor

ABSTRACT

Red Herring in Pediatric Surgery

Mohamad Ikhwan Rahizan[1], Navinder Singh, John Emmanuel Fernandes, Daliza Badaruddin

INTRODUCTION

Red herring is used to describe something that provides a misleading clue and is often encountered in clinical medicine. We present three such cases managed at our centre.

CASE SUMMARY

A 6 year old child presented with lower abdominal pain to the ETD. Abdominal radiography showed a well circumscribed opacity at the suprapubic area which was interpreted as a bladder stone. Clinical findings and blood parameters were suggestive of acute appendicitis and we proceeded with an open appendicectomy. The opacity on radiography turned out to be a huge faecolith within the appendiceal lumen.

A 2 month old boy presented with swellings over the chest wall and right thigh for one week post immunization. Sonography was suggestive of an infected vascular malformation and we started intravenous antibiotics. We proceeded with an MRI Brain and Thorax to look for features of PHACE syndrome. MRI revealed a huge cerebral abscess which was tracking to the right chest wall. There were no vascular malformations. Child had no neurological symptoms throughout this period. A craniectomy and drainage of cerebral abscess and chest wall abscess was performed.

A 3 year old boy presented with symptoms of chronic constipation for one year. He had visited multiple primary care centres and was treated with laxatives. Abdominal radiography showed loss of central bowel shadow. CT abdomen revealed a huge mesenteric lymphangioma which was excised.

Post operative recovery for all three children was uneventful.

[1] ikhwanrahizan@gmail.com, Hospital Raja Permaisuri Bainun, Ipoh.

CONCLUSION

Red herring cases can lead to wrong diagnosis thus delaying appropriate treatment. Clinical findings may be subtle. A high index of suspicion is required to make an early and accurate diagnosis.

ABSTRACT

A Case Of Extra-Pontine Myelinolysis Preceeding A Diagnosis Of Lithium-Induced Nephrogenic Diabetes Insipidus

Olivia Wong Yan Qi[1], Prem Kumar Chandrasekaran[2]

ABSTRACT

Lithium therapy is considered first-line treatment for bipolar mania and is widely regarded as the drug that 'saves lives'. However, because its elimination is almost wholly unchanged via the kidneys that lead to its toxic acute side-effects, there are also other effects associated with long-term usage that cause declining renal function and in particular, the risk of developing nephrogenic diabetes insipidus (DI). DI is difficult to uncover and is frequently preluded by dehydration, which decreases urine output thereby increasing serum concentrations of lithium. Hence management of dehydration must take into account a cascade of complications that can arise if guidelines are not adhered to.

A reduced state of serum osmolarity will usually follow dehydration and there will be a tendency to over-correct the resultant hyponatremia and hypokalemia. The causative hypernatremia, if ensues, then leads to a hyperosmolar state which subsequently results in myelin sheath damage in the form of demyelination of neurons, classically manifesting as central pontine myelinolysis (CPM). This initial clinical picture of osmotic demyelination syndrome dominated by electrolyte imbalance can lead to a myriad of symptom clusters - the presence of neurological phenomena may cause the clinician to focus only on the presenting symptoms, thus missing out on the bigger picture.

We describe a case wherein long-term use of lithium to treat bipolar disorder reared its ugly head when the patient experienced a downward spiral after overzealous correction of hyponatremia that was brought on by bouts of severe vomiting. The emergence of the less commonly encountered extra-pontine myelinolysis (EPM) followed, which triggered the symptomatic unfolding of the dreaded underlying nephrogenic DI. Although both conditions were later successfully reversed with little sequelae, recovery was nevertheless protracted. This experience brought to light the need to be vigilant about such complications of lithium therapy and diagnostic and management flowcharts are hereby presented when approaching such challenges.

[1] RCSI-UCD Malaysia Campus, Penang
[2] Penang Adventist Hospital

ABSTRACT

Pedunculated Soft Tissue Mass Of Perineum, Benign Or Malignant?

Abdul Hamid Omar[1], Ammar Azizi, Suriza A.R, Ainaini Hussin

ABSTRACT

Pedunculated soft tissue lesions of the perineum can be benign or malignant. However, it is difficult to distinguish clinically whether the lesion is benign or malignant. Although the soft tissue swelling appears benign, a histopathological examination is paramount.

Wide local excision provides curative treatment in addition to avoiding redo surgery should histopathology confirm a malignant element. Pathologically malignant lesions will require further work-up to detect distant metastasis. After complete resection, adjuvant treatment and further follow up will depend on type of histopathology. Prognosis of metastatic disease is poor.

We report 2 cases with similar clinical features and radiological findings but contrasting histopathological features. The only radiological feature in favor of malignancy was an increase in vascularity of one swelling. Histopathological examination confirmed the malignancy component.

[1] ludimaramo@gmail.com, Hospital Tanah Merah, Kelantan.

ABSTRACT

Needle Ingestion in A 11 Year Old Girl : Wait And See – A Case Report

Salehah[1], Ruzaimie, Razin, Tarmizi[2]

INTRODUCTION

Ingestion of foreign bodies is an old medical problem of decreasing occurrence. Several cases have been reported in medical literature. Diagnostic and therapeutic approaches must be applied in a multifaceted and differentiated manner.

CASE REPORT

Our case concerns a 11-years-old girl with accidental ingestion of a needle. Radiography revealed the object to be at the centre of the abdomen. The patient was asymptomatic. We applied a "wait and see" approach to allow spontaneous passage of the object. This was monitored radiologically and proved successful.

DISCUSSION

In children, especially in the case of benign objects like coins, spontaneous passage can be expected, not necessitating an invasive intervention. If potentially dangerous objects are involved, a diagnostically observant approach is also indicated, as 95% of all ingested objects pass through the intestine without incidents. Surgery is indicated if the foreign object is located in the right lower abdomen on imaging. Location within the appendix must be assumed in these scenarios. If the sharp object is stuck within appendix, risk of becoming symptomatic is 93%, inflammation 88% and perforation 70%.

[1] salehah_tahkin@yahoo.com, Paediatric Surgery, Hospital Raja Perempuan Zainab II, Kelantan
[2] Paediatric Surgery, Hospital Raja Perempuan Zainab II, Kelantan

CONCLUSION

A “Wait and see” approach is highly feasible in cases of ingestion of sharp objects. If the object remains in the colon, the treatment option is endoscopy followed by surgery either laparoscopic or open. In the “wait and see” approach, threshold for surgical intervention should be low in the event of clinical deterioration.

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The articles for publication in the journal may be kindly sent to The Editor **<masheditor@gmail.com>**. The article should be prepared as per the **Manuscript Submission** guidelines given below:

(i) The article should be in internationally accepted English

(ii) Title Page: Title of manuscript , Name(s) and affiliation of author(s), institution(s) and city(ies) and address of corresponding author (Tel., Fax & E-mail)

(iii) Abstract should highlight objectives, methods, results, conclusion (except Review Articles and Case Reports, where it could be content-specific)

(iv) Article (double-spaced in Word format) should be headed by introduction, material & methods, results and, discussion.

(v) References (maximum number of references for update article – twenty (20), original article – ten (10) and case reports – six (6) preferably). This would be in accordance with the Vancouver system.

(vi) Table/graphs: Each on separate file (maximum number of tables/graphs – four (4) in original articles).

(vii) Photographs: Each also in separate file (maximum number of photograph files - three (3) for original article and one to two (1-2) for case report.

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