Mouth and Genital Ulcers with Inflamed Cartilage (MAGIC) Syndrome in Pregnancy

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A thirty-three-year-old Jordanian female attended the ear, nose, and throat (ENT) clinic with hoarseness of voice and cough. She had a history of repeated attacks of hoarseness and difficulty of breathing; these symptoms responded to oral steroids. No definite diagnosis was made; however, asthma was contemplated. Airway inflammation and crusting were detected during clinical examination, suggesting rhinoscleroma. She was found to be pregnant and her steroid treatment was stopped. After 1 week, she presented with upper airway obstruction necessitating emergency tracheotomy. Review of her history revealed recurrent mouth and genital ulcers. Bronchoscopy and biopsy revealed inflamed cartilage. CT scan and flexible bronchoscopy revealed significant subglottic stenosis. The patient was initially treated with steroids, and Azathioprine. Postpartum, the patient was reassessed. She underwent dilatation of the stenosed segment multiple times, after which, her tracheostomy was capped and subsequently closed.

MAGIC syndrome is a rare disease and is especially challenging when it presents in pregnancy. Our patient considered abortion, but she was successfully managed with steroids and Azathioprine.

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Mouth and genital ulcers with inflamed cartilage (MAGIC) syndrome was first described by Firestein et al in 1985, who reported five patients with clinical features of both relapsing polychondritis (RP) and Behçet's disease (BD), proposing the term MAGIC syndrome to describe the overlap of the two conditions[1]. Since then, 16 additional cases have been reported in the literature, mostly from the USA, Europe and Japan[1-16]. Four more probable cases were described before 1985[17-20].

Our case is the first to be reported in the Middle East and is the only reported case of MAGIC syndrome diagnosed during pregnancy, which limited the treatment options.

The aim of this report is to present a case of MAGIC syndrome during pregnancy, which was successfully managed with steroids and Azathioprine.

THE CASE

A thirty-three-year-old Jordanian female presented with a history of progressive dyspnea, dry cough, repeated attacks of hoarseness of voice, and dysphagia to solid food for the past 3 years. The patient was previously diagnosed with asthma and maintained on oral steroids, after which, her symptoms had improved.

Laryngoscopy revealed airway inflammation and crusting, therefore, a diagnosis of chronic subglottic stenosis/ rhinoscleroma was made. The patient was found to be 6-weeks pregnant; therefore, her steroids were stopped.

Six weeks later, the patient presented with severe upper airway obstruction, which necessitated admission to the intensive care unit (ICU).

Upon admission to the surgical ICU, emergency tracheostomy was performed. Biopsies were taken from the nose and subglottic tissues. The postoperative course was unremarkable, except for mild surgical emphysema at the left hemithorax, which resolved spontaneously.

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After one week of ICU admission, the patient was transferred to the ward in a stable condition. Review of her medical history revealed recurrent oral and genital aphthous ulcers and difficult intubation during her last lower segment cesarean section (LSCS) 3 years ago. There was no history of eye redness or pain, impaired vision, skin rash, arthralgia/arthritis, impaired hearing, tinnitus or vertigo. There was no past history of any thrombotic event.

Systemic examination was unremarkable apart from multiple small ulcerations of her buccal mucosa, see figure 1. We also noted that the patient had a saddle-shaped nose, see figure 2.

Figure 1: A Healed Oral Aphthous Ulcer

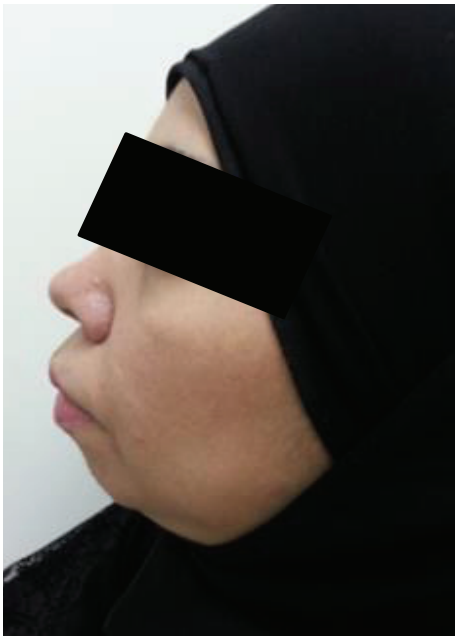

Figure 2: Saddle-Shaped Nose

Blood tests revealed normal complete blood count and normal renal and liver function tests. The patient had raised erythrocyte sedimentation rate (ESR) 60 mm/h and normal C-reactive protein (CRP) 0.1 mg/L. Antinuclear antibodies (ANA), anti-double-stranded DNA antibody (anti-dsDNA), rheumatoid factor, and antineutrophil cytoplasmic antibodies (ANCA) were negative. Chromosomal analysis was negative for human leukocyte antigen (HLA) 51 and 52. CT scan of the neck and flexible bronchoscopy revealed significant subglottic stenosis, see figure 3. Tissue biopsy confirmed the presence of inflamed cartilage (chronic chondritis).

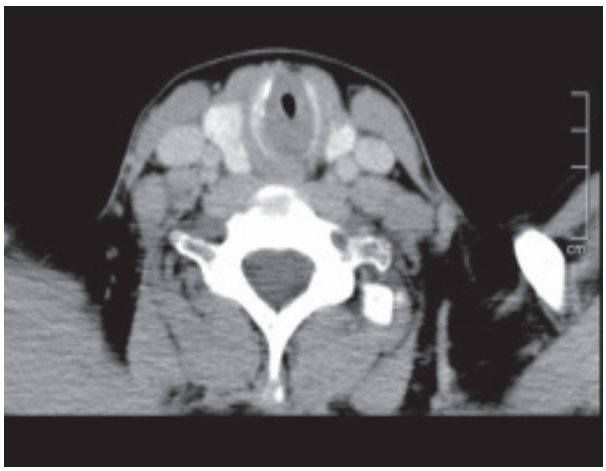

Figure 3: CT Scan of the Neck Showing Subglottic Stenosis

MAGIC syndrome was contemplated. The patient was initially managed with intravenous steroids and then oral steroids. Azathioprine was added to the treatment regimen. She was discharged in a stable condition with a tracheostomy tube.

During her follow-up visit, the patient had repeated laryngoscopy, which revealed resolved inflammation and improved upper airway patency, see figures 4 A-B. Oral steroids were tapered down and continued on Azathioprine.

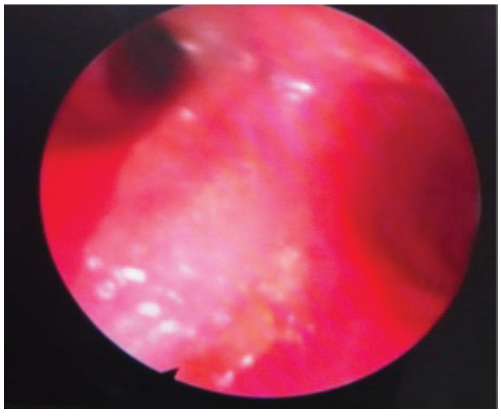

Figure 4 (A): Pre-Treatment Bronchoscopy Showing Inflamed Cartilage with Crusts

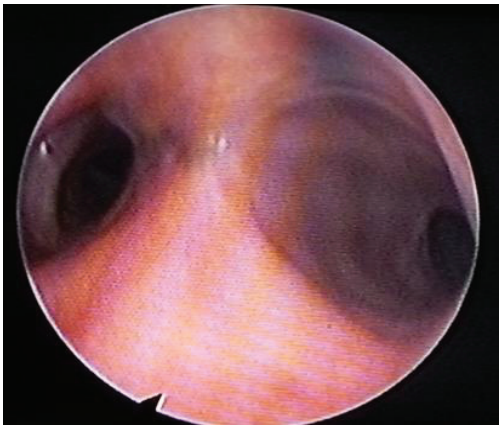

Figure 4 (B): Post-Treatment Bronchoscopy with Resolved Inflammation

At 38-weeks of gestation, the patient had a lower segment Cesarean section (LSCS) and delivered a normal baby girl. Postpartum, the patient was reassessed. The tracheostomy tube was capped. She underwent dilatation of the stenosed segment multiple times, after which the tracheostomy was successfully closed.

DISCUSSION

To date, 21 cases of MAGIC syndrome have been reported in the literature, and four additional probable cases have been described[1-20]. All reported patients were from USA, Europe, Australia and Japan[1-20]. There was no gender predominance as males and females were equally affected. Most patients had both oral and genital ulcers, and all of them developed chondritis of the ear, nose or both. Some patients developed uveitis, keratitis, conjunctivitis, iritis and scleritis, while others developed erythema nodosum, urticaria, pseudo-folliculitis, cutaneous vasculitis, acne vulgaris, skin ulcers and pustules, positive pathergy test, and arthralgia and arthritis. Cardiac involvement was also reported, with three patients found to have an aortic aneurysm, and two patients developed valvular insufficiency. Thromboembolic complications were not uncommon as both arterial and venous thrombosis were reported[1-20].

The overlap between relapsing polychondritis and Behcet's disease was dubbed MAGIC syndrome in 1985[21]. Patients with MAGIC syndrome simultaneously present specific findings for Behcet's disease and relapsing polychondritis[21]. The frequencies of clinical manifestations in MAGIC syndrome were reported as the following: oral ulcers and auricular chondritis (100%), genital ulcers and polyarthritis (83.3%), eye manifestations (scleritis, episcleritis, conjunctivitis, keratitis), nasal chondritis and pseudofolliculitis (58.3%), thrombosis (41.6%), uveitis, audiovestibular involvement, cutaneous vasculitis and gastrointestinal involvement (25%). CNS manifestations, orchiepididimitis, erythema nodosum, positive pathergy tests, and respiratory tract chondritis were reported less frequently[21].

Our patient fulfilled the modified criteria for the diagnosis of relapsing polychondritis as she developed both nasal and respiratory tract chondritis (confirmed by histology), with good response to steroids and immunosuppressants. She also fits the new international criteria for the diagnosis of Behcet's Disease as she had recurrent oral and genital ulcers[22]. Therefore, she satisfies the proposed criteria for MAGIC syndrome.

Most cases of MAGIC syndrome have been reported in the USA and Europe, where Behcet's Disease is rare[23]. Among those, only a few cases had positive genetic testing. This raises the question of whether MAGIC syndrome is really an overlap of two rare, multi-systemic diseases occurring simultaneously, or if it is a third, entirely different disease. Is MAGIC syndrome really such a rare condition, or is it just under-diagnosed in our region?

Both Behcet's disease and relapsing polychondritis are chronic conditions potentially resulting in morbidity and mortality due to their multi-systemic involvement. Physicians should be alert to manifestations of both diseases for early identification of MAGIC syndrome. Additional research is required to identify the pathogenesis of Behcet's disease and relapsing polychondritis, and to identify any common mechanisms that would explain cases with overlapping features.

This case was particularly challenging as our patient presented during pregnancy, which made the diagnosis and treatment more complicated, both medically and ethically.

CONCLUSION

MAGIC syndrome is a rare disease and is especially challenging when it presents in pregnancy. Our patient considered abortion, but she was successfully managed with steroids and Azathioprine.

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