European Journal of Obstetrics & Gynecology and Reproductive Biology 237 (2019) 215–219

Contents lists available at ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: www.elsevier.com/locate/ejogrb

Letters to the Editor – Brief Communications

Cutaneous non-tubercular mycobacterial infection in pregnancy and treatment consideration

Sir,

We present a unique case of non-tubercular mycobacterial infection during pregnancy. A 36-year-old pregnant woman (gravida 2, para 1) presented at 24+ weeks of gestation to the dermatology outpatient with an ulcerated lesion on the abdomen. It had been present for 1 month. There was minimal non-foul-smelling seropurulent discharge from the lesion. She was a known diabetic, and there was a history of multiple injections on the site in the past. She had received amoxicillin 500 mg four times per day for 3 weeks without any response. On local examination, there was a 2.5 x 1 cm erythematous indurated plaque with central ulceration covered with crust on the right lower quadrant of the abdomen (Fig. 1a). The surrounding skin was normal and there was no regional lymphadenopathy. Systemic examination was within normal limits. The patient's blood counts, fasting blood sugar, HbA1c, and serum and urinary biochemistry were within normal limits. Histopathology from the ulcer showed granulomatous inflammation composed of polymorphs, histiocytes and lymphocytes in the mid and lower dermis (Fig. 1b). Ziehl-Neelsen stain for acid-fast bacilli and periodic acid Schiff stain for fungus were negative. The discharge was collected and subjected to microbiological evaluation including culture and polymerase chain reaction

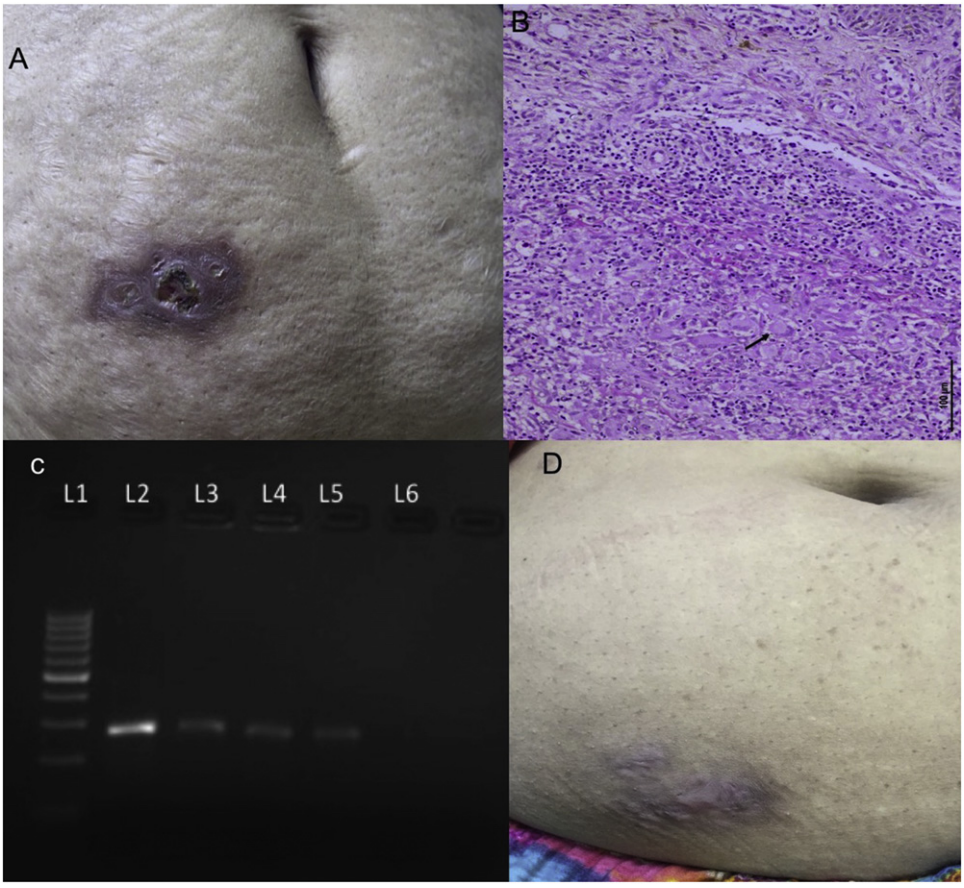

Fig. 1. Cutaneous non-tuberculous mycobacteria during pregnancy. (A) An erythematous indurated plaque with central ulceration on the right lower quadrant of the abdomen. (B) Histopathology of skin biopsy showed epithelioid cell granuloma with multiple Langhans giant cells (marked with arrow), neutrophils and lymphocytes (marked with arrow) (haematoxylin and eosin, original magnification x200). (C) Presence of *Mycobacterium fortuitum* confirmed by polymerase chain reaction targeting M. fortuitum complex specific SOD gene primers: L1, 100 base pairs (bp) molecular marker; L2, positive control with 275 bp band specific for *M. fortuitum* (marked with arrows); L3, DNA extracted from patient discharge; L4 and L5, biopsy sample positive for *M. fortiuitum*; L6, negative control. (D) Complete clearance after 2 months of treatment.

(PCR). Cultures for bacteria and fungi were negative. We isolated *Mycobacterium fortuitum* from the discharge and skin biopsy using PCR (Fig. 1c) and subsequent sequencing of the amplified product (Fig. 1c) [1]. The patient was started on linezolid 600 mg twice daily and ofloxacin 400 mg p.o. daily. The lesion healed completely after 2 months of therapy, with no recurrence after 6 months of follow-up (Fig. 1d). Growth scans at regular intervals during pregnancy confirmed a well-grown fetus with estimated fetal weight and abdominal circumference on the 95th centile. The patient went into spontaneous labour at 39+ weeks, and delivered vaginally a healthy normal baby boy weighing 3.2 kg.

Historically, mycobacterial infections in pregnancy and puerperium are almost exclusively due to *Mycobacterium tuberculosis*. Pregnancy is a complex immunological state wherein there is a shift from a T helper 1 to a T helper 2 response, leading to impaired cell-mediated immunity. Non-tuberculous mycobacteria (NTM) are ubiquitous organisms with low virulence; as such, they often manifest during immunosuppression or following a breach in the skin. Clinical manifestations are varied and diagnosis is often delayed. NTM can be categorized into rapidly growing mycobacteria (RGM) and slowly growing mycobacteria. The most prevalent RGM species are *M. abscessus, M. fortuitum* and *M. chelonae*. A literature search revealed only two previous reports of rapidly growing NTM pathogens during pregnancy, namely *M. fortuitum* [2] and *M. chelonae* [3]. In a review of 63 patients with skin or soft tissue infections due to RGM, it was observed that patients with *M. chelonae* and *M. abscessus* infections were older, had disseminated lesions and were immunosuppressed. In contrast, patients with *M. fortuitum* infection were more likely to have a single lesion following surgery or injury, as seen in our case.

Optimal treatment of RGM infections remains poorly established. *M. fortuitum* and *M. chelonae* isolates are usually susceptible to amikacin, ciprofloxacin, moxifloxacin and trimethoprim-sulfamethoxazole, while *M. abscessus* isolates are susceptible to amikacin, clarithromycin, azithromycin and linezolid [4,5]. Clarithromycin appears to be reliably active against *M. chelonae* and *M. abscessus*, although its activity against *M. fortuitum* is less predictable [4,5]. Combination therapy with more than one drug seems prudent because of concerns about acquired resistance. To conclude, although rare in pregnancy, NTM should be suspected and treated effectively based on the susceptibility pattern in order to prevent the risk of dissemination.

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Received 10 February 2019

http://dx.doi.org/10.1016/j.ejogrb.2019.03.026

Single-incision sling for stress urinary incontinence: A video tutorial

Dear Editor,

We wanted to share an educational video about single-incision slings (SISs). SISs have been recently introduced as alternative to standard tapes to increase safety. In fact, SISs involve a shorter length of tapes and very limited intracorporeal dissection without the blind passage of the needles through retropubic space or obturator foramen. Moreover, SISs have demonstrated a negligible learning curve [1]. In addition, SISs seem to have good effectiveness irrespective of age, BMI and obstetrical history [2,3]. Lastly, proper bilateral anchoring on obturator membranes seems to be unnecessary in order to maintain efficacy [4]. Basing on these characteristics, SIS devices can be very attractive for inexperienced surgeons. However severe complications have been described, including exposure, hematomas, and bladder perforation [5]. According to a survey distributed to students, residents, and surgeons – video hosting usage is the preferred method to prepare for surgery [6]. Recently, Larouche et al. identified a list of surgical steps considered mandatory for a complete midurethral slings video-tutorial to evaluate measure the accuracy and comprehensiveness of educational videos available on the internet. Interestingly, none of the considered videos resulted complete [7]. Here we propose a video aimed to provide a comprehensive educational video with all surgical steps necessary to achieve a successful SIS placement. From the pre-determined list of 16 expected standard midurethral sling surgical steps we retained those applicable to single-incision sling [7]. These steps were: (1) anesthesia, (2) patient positioning, (3) Foley catheter insertion, (4) vaginal mucosa infiltration with anesthetic agent, (5) vaginal mucosa incision, (6) lateral dissection with Metzenbaum scissors, (7) sling placement, (8) cystourethroscopy, (9) sling tensioning, (10) vaginal mucosa closure, (11) Foley catheter removal, (12) voiding trial, (13) and same-day discharge. Informed consent provided information on indications, alternatives, risks (voiding dysfunction/urinary retention, overactive bladder, bladder/urethral injury, pelvic/groin pain, mesh complication, reoperation for failure, urinary tract infection, vascular injury, bowel injury), and expected outcomes.