

Mycobacterium Abscessus Infection in Polyurethane Coated Breast Implant Augmentation: A Case Report

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Abstract:

We report a rare case of sub-acute Mycobacterial Abscessus infection of bilateral breast augmentation which has been not reported in the literature with polyurethane coated silicone breast implant. Patient initially presented to her primary cosmetic surgeon with scar retraction and discomfort in the right augmented breast over seven months after surgery. Over next four weeks period, the area of concern became more inflamed and eventually led to a discharging sinus with implant exposure that required removal and limited capsulectomy by the cosmetic surgeon. Routine culture did not isolate any pathogens but the excised scar and capsule eventually grew Mycobacterium Abscessus. Following recommendation by local infectious disease expert, the patient was referred to the Senior Author for further scar excision with total capsulectomy followed by a prolonged course of appropriate antibiotics. Interestingly, granulomata were found in the skin scar and capsule sent for histological analysis. Atypical Mycobacterial breast implant infection is rare but should be excluded in all breast implant infections. Review of atypical mycobacterial breast implant infection is discussed. We strongly advocate total capsulectomy in addition to removal of implant and prolonged course of anti-mycobacterial agent guided by the advice from a local infectious disease expert as a comprehensive treatment for this rare condition.

Case Report

A thirty seven-year-old female presented to her primary cosmetic surgeon with scar retraction and discomfort in the right augmented breast over seven months after surgery. Over the next four weeks period, the area of concern became more inflamed and eventually led to a discharging sinus with implant exposure (photo 1) leading to removal of the infected implant with limited capsulectomy. Routine culture of discharge did not isolate any pathogens but the excised scar and capsule eventually grew multi-resistant Mycobacterium Abscessus.

Infectious disease expert was consulted and recommended total capsulectomy to remove any residual polyurethane coating within the fibrous capsule. At this point, the patient was referred to the Senior Author for further management as it was felt that the risk for pneumothorax was beyond the scope of cosmetic surgery practice and would also require the backup of cardiothoracic surgeon on site. Total capsulectomy was performed by the senior Author six weeks after initiation of anti-mycobacterial treatment (Photo 2) without complication.



Photo 1
Discharging sinus and exposed right breast implant



Photo 2
Planned excision of scar and capsulectomy six weeks after removal of breast implant

Intra-operatively no remarkable finding beside a small collection of serous fluid was found in the capsule cavity with smooth inner lining. The relative ease of total capsulectomy was a pleasant surprise than was initially anticipated and macroscopically, no capsule was left behind (Photo 3).

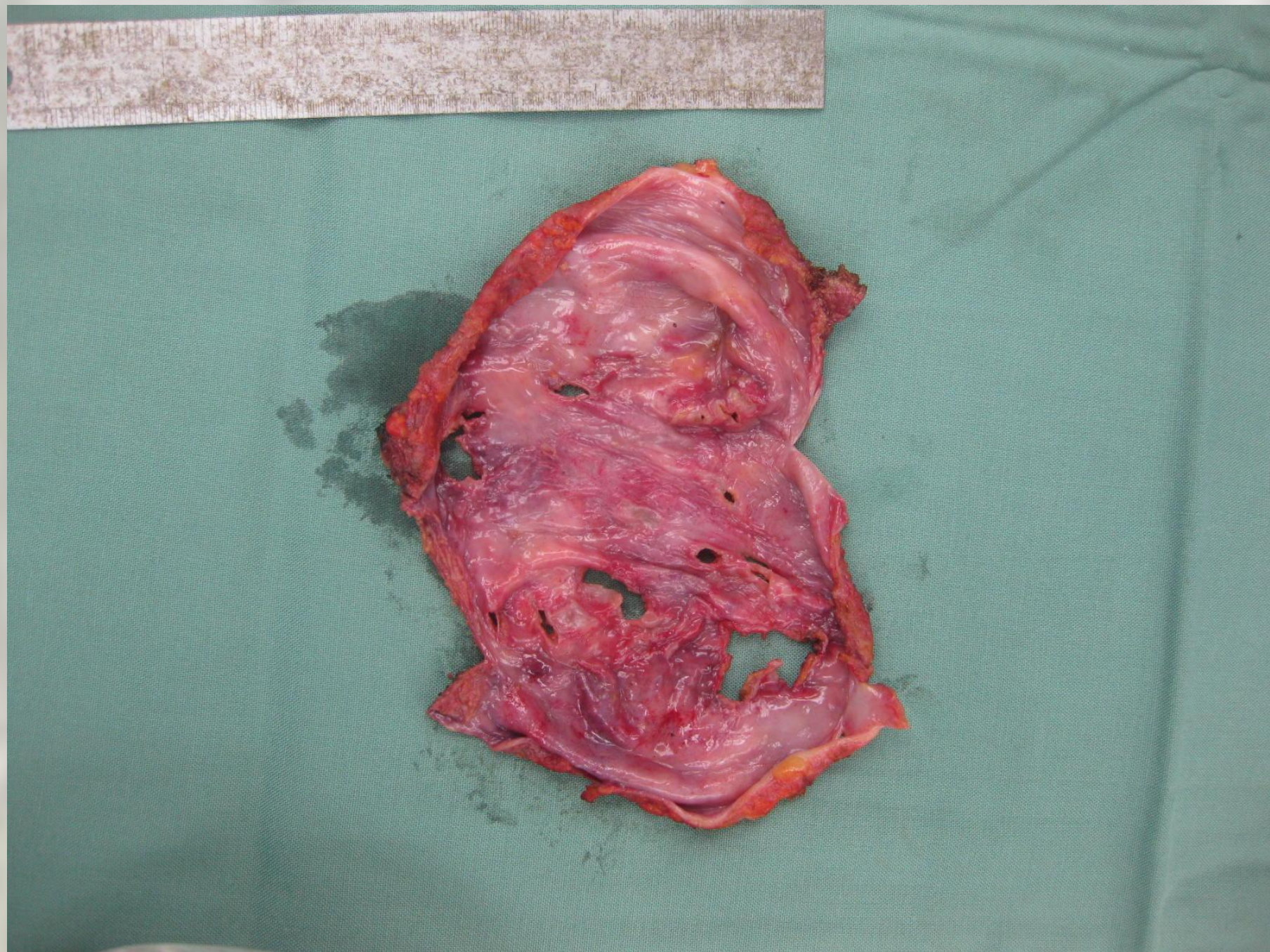


Photo 3
Implant capsule cut open to reveal smooth inner lining of the capsule

Histological examination did not reveal mycobacterium on staining techniques but there was evidence of non-necrotising granulomata within the capsule and the infra-mammary scar showed suppurative as well as necrotising granulomatous inflammation. In addition, there was prominent foreign body reaction to refractile material indicating the residual polyurethane coating (Photo 4 and 5). All specimen cultures were negative for mycobacterium.

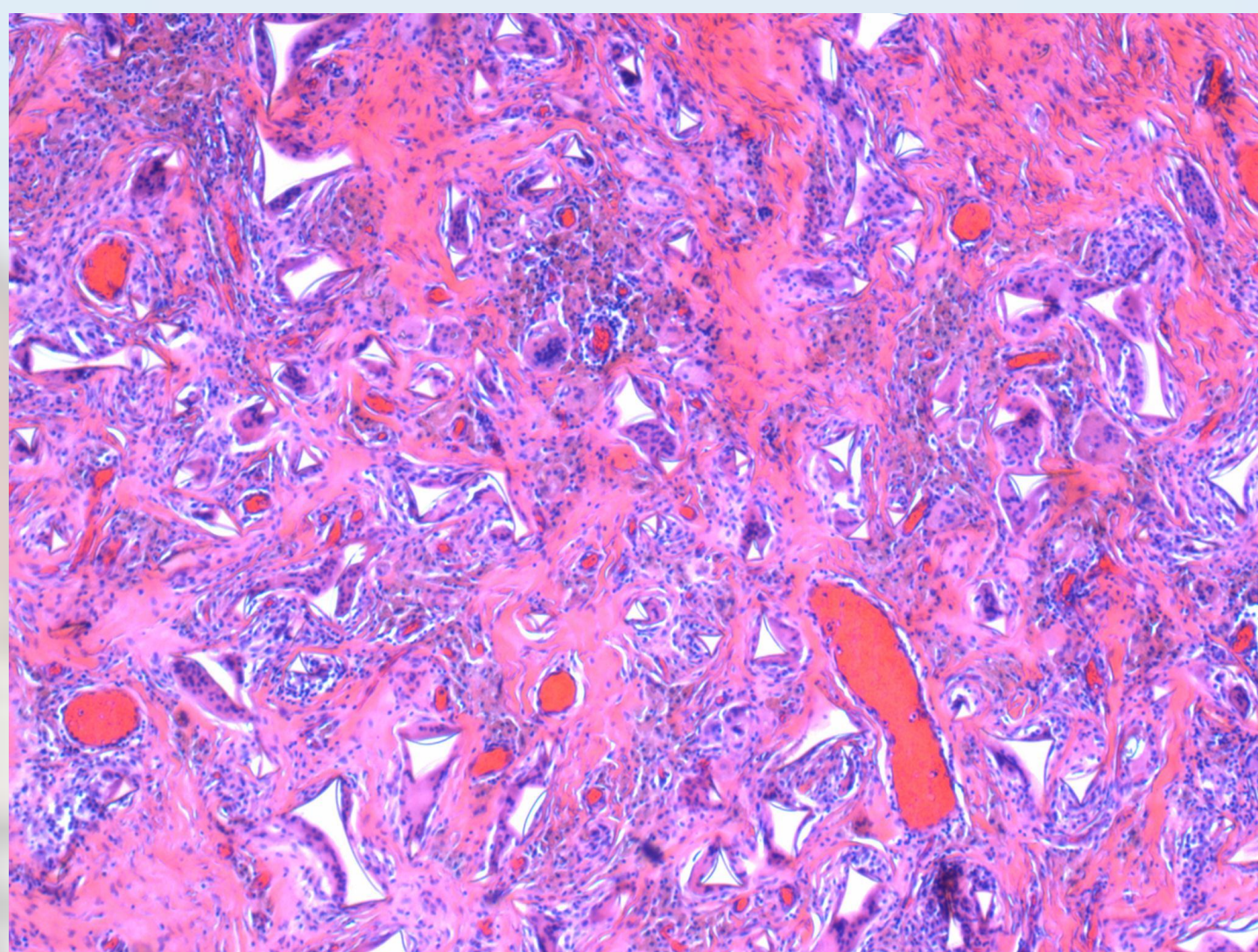


Photo 4
Low power microscopy showing foreign body giant cell reaction and non-necrotising granuloma

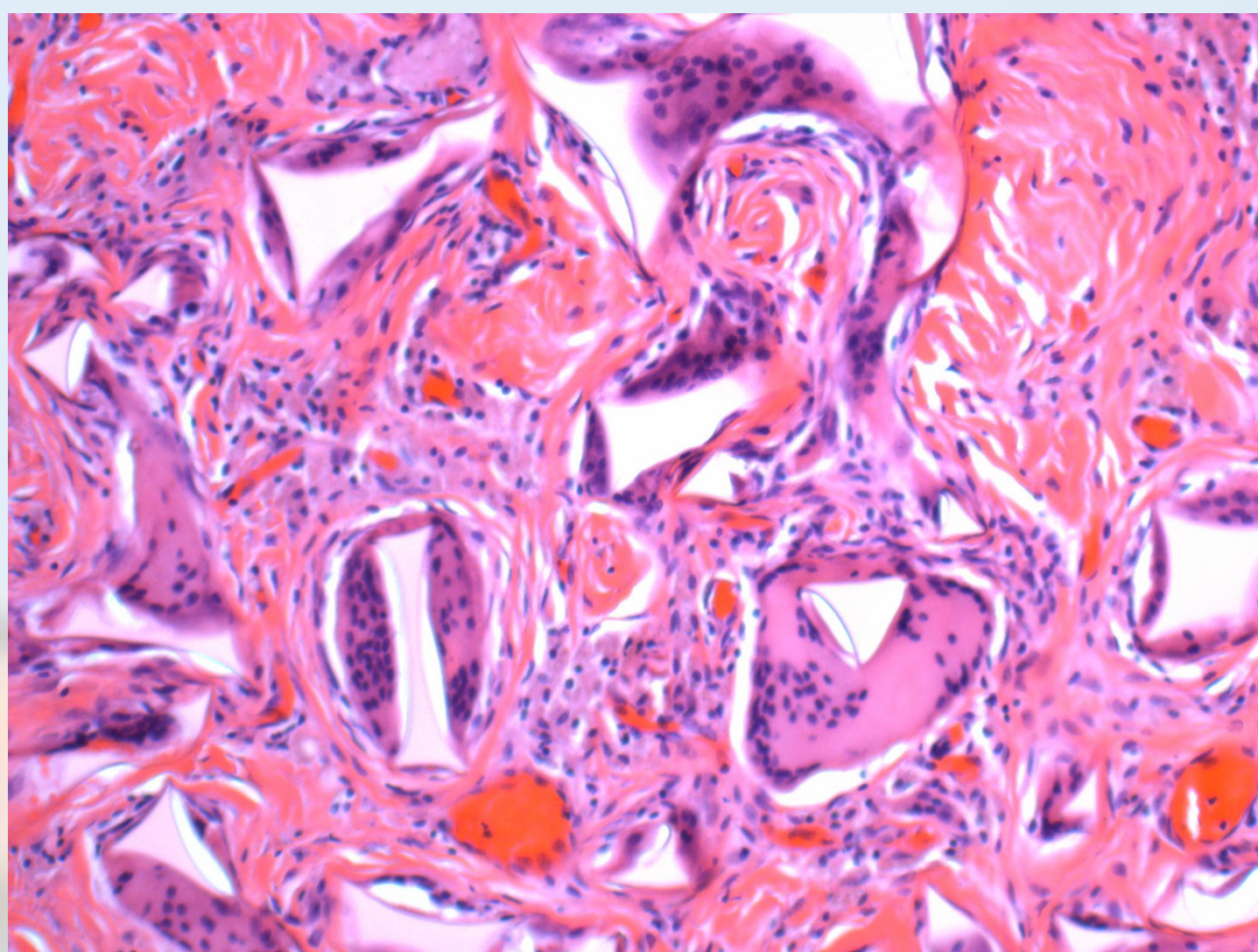


Photo 5
High power microscopy showing foreign body reaction to numerous refractile material

The patient made an uneventful recovery and completed a prolonged course of appropriate antibiotics with no recurrence of infection.

Discussion

Atypical mycobacterial breast implant infection is rare but should be excluded in all breast implant infections especially Mycobacterium Fortuitum¹. Mycobacterial Abscessus infection following bilateral saline implants was first reported by Feldman².

We report a first of sub-acute Mycobacterial Abscessus infection with polyurethane coated silicone breast implant. Use of polyurethane coated breast implant is increasing because of it's low incidence of capsule contracture³. The benefit of polyurethane devices was found to be related to its biochemical effects on the capsule and not only due to the surface texture⁴. Nevertheless, in the event of removal of the implant after a significant period of time has elapsed (six months), the polyurethane coating is usually left attached to the capsule⁵. Hence, in our patient, it was felt that total capsulectomy was imperative to reduce the chance of persistent Mycobacterium Abscessus infection around the polyurethane coatings.

Conclusion

In delayed presentation of breast implant infection, a high index of suspicion for mycobacterial infection is necessary and if infection is confirmed, we strongly advocate total capsulectomy in addition to removal of the polyurethane coated breast implant.

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