

## Case Report

# Nontuberculous mycobacterial parotitis in an elderly woman with Sjögren's syndrome and diabetes mellitus: a case report

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### ABSTRACT

Nontuberculous mycobacterial infection of the parotid gland is rare in adults and poses a diagnostic dilemma due to its non-specific presentation and resemblance to bacterial parotitis or neoplastic condition. Coexisting autoimmune salivary gland disease may further obscure diagnosis. We report a case of an elderly woman who presented with a progressive, painful left parotid swelling refractory to multiple courses of antibiotics. Imaging revealed multiple intraparotid micro-abscesses and fatty degeneration of other salivary glands, prompting evaluation for an autoimmune disorder. Sjögren's syndrome was confirmed serologically, and diabetes mellitus was newly diagnosed. Fine-needle aspiration demonstrated acid-fast bacilli, with cultures confirming *Mycobacterium abscessus*. The patient was successfully treated with prolonged, targeted combination antimicrobial therapy, resulting in clinical resolution. NTM infection should be considered in refractory parotid infections, particularly in the presence of underlying autoimmune or metabolic comorbidities. Early microbiological diagnosis enables appropriate therapy and may prevent unnecessary surgical intervention.

**Keywords:** Nontuberculous mycobacteria, *Mycobacterium abscessus*, Sjögren's syndrome, Diabetes mellitus, Parotid gland

### INTRODUCTION

Parotid gland swelling in elderly patients poses a diagnostic dilemma, with differential diagnosis ranging from acute sialadenitis and autoimmune disorder to neoplasms. Infective parotitis is most frequently caused by pyogenic organisms or viral aetiologies, while mycobacterial involvement of the parotid gland is uncommon, particularly in adults without classical immunosuppression.<sup>1,2</sup> Nontuberculous mycobacteria (NTM) comprise a diverse group of environmental mycobacteria increasingly recognised as human pathogens. While pulmonary disease is the most common presentation, extrapulmonary involvement especially of head and neck region is uncommon in adults.<sup>3</sup> It predominantly involves major salivary glands in children and immunocompromised individual, with infrequent

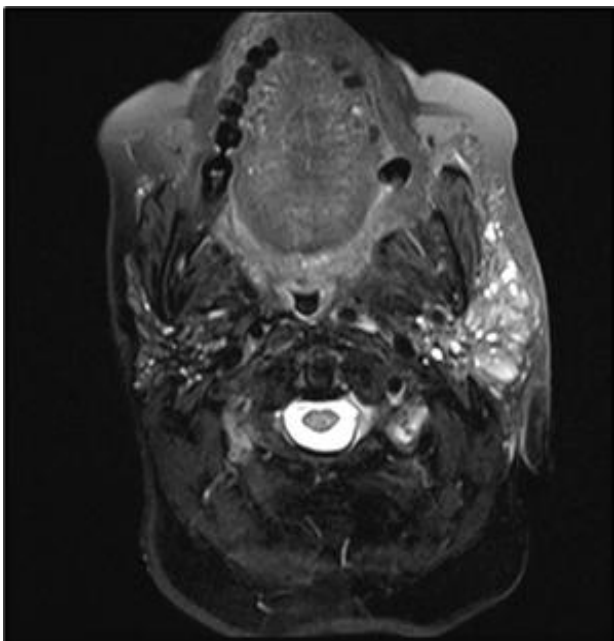
reports in adults.<sup>3</sup> Its nonspecific clinical features and resemblance to bacterial parotitis or neoplastic condition makes it a diagnostic challenge.<sup>4</sup> Sjögren's syndrome (SS) is a chronic autoimmune disorder characterised by lymphocytic infiltration and progressive dysfunction of exocrine glands. Population based studies have demonstrated SS predisposing patients to recurrent salivary gland inflammation and infection including NTM infection especially in those receiving immunosuppressive therapy.<sup>5,6</sup> However, NTM infection of parotid gland in patients with SS who are not receiving immunosuppressive therapy has rarely been described. Diabetes mellitus, although not a classical immunosuppressive condition, is another important systemic condition that impairs immune responses and increases susceptibility to atypical and opportunistic infections including mycobacterial disease.<sup>7,8</sup> The

coexistence of diabetes mellitus with autoimmune salivary gland dysfunction may further increase the likelihood of persistent or refractory infections of the parotid gland. *Mycobacterium abscessus*, a rapidly growing NTM, is an emerging pathogen known for its intrinsic antibiotic resistance and diagnostic challenge, often resulting in delayed diagnosis and prolonged treatment.<sup>3-9</sup> Involvement of the parotid gland by *M. abscessus*, in the setting of autoimmune disease and metabolic comorbidities, has been only occasionally described.

We present a case of *Mycobacterium abscessus* parotitis in an elderly woman with coexisting Sjögren's syndrome and newly diagnosed diabetes mellitus. This report emphasizes the need to consider NTM infection in refractory parotid abscesses, especially in patients with underlying autoimmune and metabolic comorbidities, and highlights the role of targeted microbiological investigations for timely diagnosis and appropriate management.

### CASE REPORT

An elderly woman presented with a progressive left parotid swelling associated with pain for two months, without constitutional symptoms such as fever, weight loss or night sweat. There was no history of trauma, dental infection or prior parotid surgery. The patient had received multiple courses of antibiotics elsewhere without clinical improvement before presenting to our institution.



**Figure 1: Contrast-enhanced T2-weighted fat suppressed MRI demonstrating diffuse enlargement of left parotid gland with multiple hyperintense intraparenchymal micro-abscesses, without a discrete solid mass.**

On physical examination, there was a firm, tender enlargement of left parotid gland, with erythema and increased local temperature of the overlying skin. There was no evidence of sinus or fistula formation, and facial nerve function was intact. No cervical lymphadenopathy was noted.

A previously performed contrast-enhanced computed tomography scan demonstrated features of left acute parotitis with multiple micro-abscesses, suggestive of an infective pathology.



**Figure 2: Parotid gland: (A) pre-treatment showing enlarged parotid gland with erythema of overlying skin and (B) on follow-up showing reduction in parotid swelling and erythema of overlying skin.**

Initial laboratory investigations revealed a normal total leukocyte count, with elevated erythrocyte sedimentation rate (58 mm 1st hour). Diabetes mellitus was diagnosed based on elevated glycosylated haemoglobin level (6.5 %). The patient was started on intravenous clindamycin and cefuroxime along with analgesics, anti-inflammatory agents and oral hypoglycaemic therapy. However, there was a progressive worsening of symptoms.

Subsequently, contrast-enhanced magnetic resonance imaging (MRI) scan demonstrated an enlarged left parotid gland with multiple micro-abscesses. Fatty degeneration of the remaining major salivary glands was also noted, raising suspicion of an underlying autoimmune disorder. Further evaluation confirmed a diagnosis of SS, based on positive anti-RO (SSA) and anti-La (SSB) antibodies.

An ultrasound-guided fine-needle aspiration of the parotid swelling yielded purulent material. Auramine-rhodamine staining demonstrated acid-fast bacilli, while GeneXpert testing for *Mycobacterium tuberculosis* was negative, raising suspicion for NTM infection. Subsequent mycobacterial culture confirmed *Mycobacterium abscessus*. Species-level identification guided antimicrobial therapy.

The patient received intravenous amikacin and oral clarithromycin, guided by susceptibility testing. Renal function and audiological monitoring were performed

during therapy. Appropriate management of SS and diabetes mellitus was done. Over the course of treatment, there was gradual resolution of parotid swelling, and the patient remained clinically stable on follow-up.

## DISCUSSION

Parotid gland infections in adults are mostly attributed to pyogenic organisms, with *Staphylococcus aureus* and mixed oral flora accounting for the majority of cases.<sup>1</sup> A lack of clinical response to appropriate broad-spectrum antibiotics should prompt evaluation for atypical pathogens, including NTM.<sup>3</sup> In present case, progressive parotid swelling despite adequate initial therapy, on further investigation led to diagnosis of *Mycobacterium abscessus* infection.

NTM infection of salivary gland is frequently described for paediatric population and immunocompromised individual, but are rarely encountered in adults without classical immunosuppression.<sup>3-9</sup> The slow-growing course, absence of systemic symptoms and normal leukocyte counts observed in this patient are consistent with previously reported patterns of NTM infection and may contribute to delayed recognition. Radiological findings of multiple intra-parotid micro-abscesses on CT and MRI supported an infective etiology but lacked pathogen specificity.<sup>2</sup>

Magnetic resonance imaging in this case also showed fatty degeneration of the remaining major salivary gland, which prompted for evaluation of underlying systemic disease. SS is characterised by chronic lymphocytic infiltration of salivary gland tissue, which causes decrease in salivary flow leading to ductal stasis, and predisposition to persistent glandular inflammation.<sup>6</sup> It causes salivary gland enlargement which can mask infection, further delaying diagnosis and management.

Diabetes mellitus causes impairment of innate and adaptive immunity which can further contribute to increase susceptibility to infection.<sup>7</sup> Although diabetes is not classically associated with NTM, coexistence of SS creates a favourable condition for opportunistic infection. Diabetes mellitus may have contributed to persistence of infection rather than acting as a primary immunosuppressive condition.

For accurate management of NTM infection, microbiological confirmation is essential. Fine-needle aspiration has been shown to be a valuable tool in parotid infections. Negative GeneXpert testing helped exclude *Mycobacterium tuberculosis*, while acid-fast bacilli on direct fluorescent stain and positive mycobacterial culture confirmed NTM infection with *Mycobacterium abscessus*. Identification of species is essential for guiding appropriate antimicrobial therapy.

Management of *M. abscessus* infection requires prolonged, combination of antimicrobial regime based on

drug susceptibility patterns. In present case, targeted antimicrobial therapy with combined optimal management of SS and Diabetes mellitus, resulted in favourable clinical outcome. Early microbiological diagnosis allowed successful medical management and avoided unnecessary surgical intervention. A multidisciplinary approach involving otolaryngology, infectious disease and rheumatology specialities was central to successful outcome.

## CONCLUSION

Persistent or progressive parotid swelling that fails to respond to standard antibiotic therapy should prompt consideration of atypical infection, even in patient without overt immunosuppression. NTM represent an important but underrecognized cause of refractory parotid infection in adults. This case illustrates the diagnostic difficulties posed by coexisting infective and autoimmune salivary gland pathology and emphasizes the need for high suspicion for timely diagnosis. Early microbiological evaluation facilitates timely diagnosis, enables targeted antimicrobial therapy, and prevents unnecessary surgical intervention.

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## REFERENCES

1. Brook I. Acute bacterial suppurative parotitis: microbiology and management. *J Craniofac Surg.* 2003;14(1):37-40.
2. Wilson KF, Meier JD, Ward PD. Salivary gland disorders. *Am Fam Physician.* 2014;89(11):882-8.
3. Griffith DE, Aksamit TJ, Brown-Elliott BA, Wallace RJ, Daley RJ, Daley LB. An official ATS/IDSA statement: diagnosis, treatment, and prevention of nontuberculous mycobacterial diseases. *Am J Respir Crit Care Med.* 2007;175:367-416.
4. Yamanaka K, Himi T, Kataura A. Non-tuberculous mycobacterial infection of the parotid gland in an immunocompetent adult. *BMJ Case Rep.* 2013;2013:bcr2013009736.
5. Chao WC, Lin CL, Shen TC, Tu CY, Chen HJ, Kao CH. The risk of nontuberculous mycobacterial infection in patients with Sjögren's syndrome: a nationwide population-based cohort study. *BMC Infect Dis.* 2017;17:796.
6. Ramos-Casals M, Brito-Zerón P, Solans R, Bosch JM, Font F, Guilabert X. Primary Sjögren syndrome. *BMJ.* 2012;344:e3821.
7. Geerlings SE, Hoepelman AI. Immune dysfunction in patients with diabetes mellitus (DM). *FEMS Immunol Med Microbiol.* 1999;26(4):259-65.
8. Casqueiro J, Casqueiro J, Alves C. Infections in patients with diabetes mellitus: a review of

pathogenesis. *Indian J Endocrinol Metab.* 2012;16(1):S27-36.

9. Brown-Elliott BA, Wallace RJ. Clinical and taxonomic status of pathogenic nonpigmented or late-pigmenting rapidly growing mycobacteria. *Clin Microbiol Rev.* 2002;15(4):716-46.

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