Cervical lymphadenitis in an immunocompetent child caused by \textit{Mycobacterium triplex}: case report and literature review.

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INTRODUCTION

With the decreasing prevalence of \textit{Mycobacterium tuberculosis} in North America, nontuberculous mycobacteria (NTM) now account for up to 95\% of cases of mycobacterial cervical lymphadenitis among children\textsuperscript{1}. The most commonly cultured organisms are \textit{Mycobacterium avium-intracellulare}, \textit{Mycobacterium scrofulaceum} and \textit{Mycobacterium kansasii}\textsuperscript{2}. NTM are found in soil, salt and fresh water, foodstuffs and even air samples\textsuperscript{3}. Children between the age of 1 and 5 present with NTM cervical lymphadenitis because of a relatively immature immune system and an increased susceptibility to environmental organisms due to oral mucosal defects from erupting dentition\textsuperscript{4}. To date, most reports of infections with \textit{M. triplex} have been limited to immunocompromised patients. While there is less reported clinical experience with \textit{M. triplex}, it is believed to behave similarly to the other nontuberculous mycobacteria.

CASE REPORT

An otherwise healthy 4 year-old girl presented at an outside hospital with a left-sided submandibular lymphadenitis. The family denied recurrent fevers, night sweats, or weight loss. She failed empiric PO antibiotic treatment, and subsequently underwent an incision and drainage procedure after CT revealed a multiloculated collection. The specimen was AFB positive. PPD and CXR were negative. She was treated with 2 months of isoniazid, rifampin, pyrazinamide, ethambutol, and pyridoxine, during which time she developed a new preauricular mass. Incision and drainage of this lesion showed granulomatous inflammation. She was subsequently referred to UMDNJ for surgical management of a NTM cervical lymphadenitis.

At the time of presentation, the patient had a preauricular 1 cm nontender, nonfluctuant preauricular mass with erythematous skin changes. In the left submandibular region, erythematous and indurated skin was noted over a tender 5 by 2 cm mass, adjoining a posterior 4 by 2 cm mass with a cutaneous sinus tract [Figure 1]. Additionally, there were multiple small firm lymph nodes throughout the cervical chain. On further questioning, a travel history to a farm in Puerto Rico two months prior to her initial presentation was discovered. Left lower lip weakness in the marginal mandibular nerve was also noted. A CT scan revealed a left-sided multiloculated, low density, rim-enhancing lesion, superficial to the submandibular gland, measuring 2.9 by 3.0 cm, and a 2.9 by 1.0 cm subcutaneous rim-enhancing lesion, which was contiguous with the skin. A necrotic lymph node was noted adjacent to the lesion, with displacement of the submandibular gland posteriorly and medially [Figure 2]. The parotid gland contained an enhancing lymph node extending to the left preauricular region, measuring approximately 1.2 cm [Figure 3]. The patient underwent curettage for the parotid lesion and full excision of the submandibular gland, skin and level one lymph nodes.

Intraoperatively, multiple necrotic lymph nodes with cutaneous involvement and fistulization were identified. The marginal mandibular branch of the facial nerve, which was adherent to the left one lymph nodes, was preserved. Histologic evaluation of the specimen revealed necrotizing granulomatous inflammation of lymph nodes and ulcerated skin, but was negative for AFB stain and fungi. Culture of the specimen grew \textit{Mycobacterium triplex}. The patient is doing well one year postoperatively; she has regained facial muscle strength and has not had recurrence of disease [Figure 4].

LITERATURE REVIEW

Clinical reports, including this one, have repeatedly shown the need for clinicians to maintain a high index of suspicion of NTM infection when a young child presents with unilateral lymphadenitis that does not respond to oral antibiotics. This is particularly true when CT findings of a rim-enhancing mass lesion, with or without a positive AFB stain, histology of necrotizing granulomatous inflammation, or an intermittently positive PPD test is confirmed\textsuperscript{3,10,12}. The benefits of early diagnosis and treatment include fewer recurrences and decreased scarring\textsuperscript{11}.

Given the few reported cases of \textit{M. triplex}, the virulence of the organism has not yet been determined, although it is thought to behave similarly to other NMT. No association has been documented between exposure to farm animals and cervical lymphadenitis. Although animal exposure is nonetheless an important component of the evaluation of cervical lymphadenitis.

DISCUSSION

We report the first case of \textit{M. triplex} cervical lymphadenitis in an immunocompetent child. The findings in this case study further support the need for complete surgical excision of involved tissue to ensure complete resolution of NMT lymphadenitis.

CONCLUSION

We report the first case of \textit{M. triplex} cervical lymphadenitis in an immunocompetent child. The findings in this case study further support the need for complete surgical excision of involved tissue to ensure complete resolution of NMT lymphadenitis.

REFERENCES