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Recurrent cervical abscess due to piriform sinus fistula

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Abstract
A case of recurrent abscess on the left anterior neck due to a left piriform sinus fistula is presented. It is known that a piriform sinus fistula may cause acute suppurative thyroiditis, and also that it induces the recurrent anterior cervical abscess described in this case. Here, we suggest that barium swallow is an important aid to diagnosis cases of recurrent cervical abscess.

Key words: Abscess; Neck; Hypopharynx; Fistula

Introduction

It has been reported by many authors that piriform sinus fistula causes suppurative thyroiditis (Takai *et al.*, 1979; Miyauchi *et al.*, 1981; English and Al-Hussani, 1983). We treated a patient with a piriform sinus fistula which induced recurrent cervical abscess without the occurrence of suppurative thyroiditis.

Case report

A 63-year-old male had suffered more than 10 episodes of abscess of the left anterior neck, without acute suppurative thyroiditis, since he was 24 years old. In childhood, he also suffered a few similar episodes which all settled when treated with antibiotics.

At presentation, he had visited his local clinic complaining of an acutely painful swelling with a cutaneous fistula in the left anterior neck. Both the fistula and the painful swelling settled with antibiotics, but he was referred to our hospital for further advice.

The orifice of the fistula was found to be on the left anterior neck. Computed tomography (CT) showed a wide left piriform fossa when compared with the right side (Figure 1). An ultrasonic examination did not show an enlarged thyroid associated with the abscess. A barium swallow revealed a fistula originating from the apex of the left piriform sinus (Figure 2).

A fistulectomy was carried out under general anaesthesia. Figure 3 shows the incision lines and the orifice of the fistula which was excised. The fistula was shown to arise from the apex of the left piriform sinus, penetrating the inferior pharyngeal constrictor muscle at the lower edge of the thyroid cartilage, and running antero-inferiorly just lateral to the left recurrent laryngeal nerve at the level of the cricoid cartilage (Figure 4). Figure 5 shows the

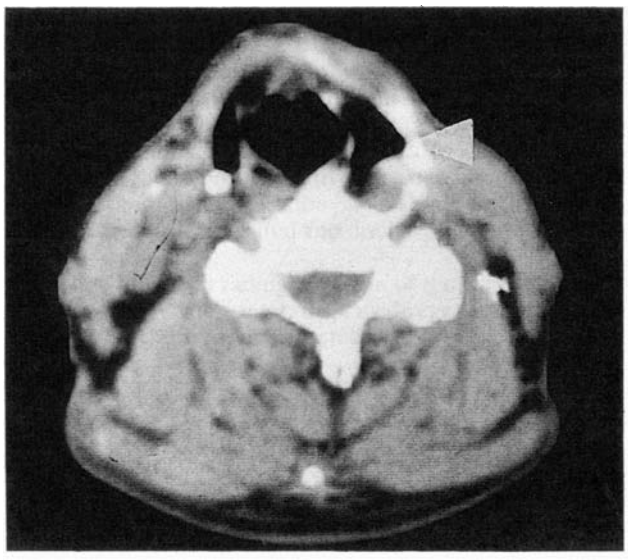

FIG. 1
CT showing wide left piriform fossa (white arrowhead).

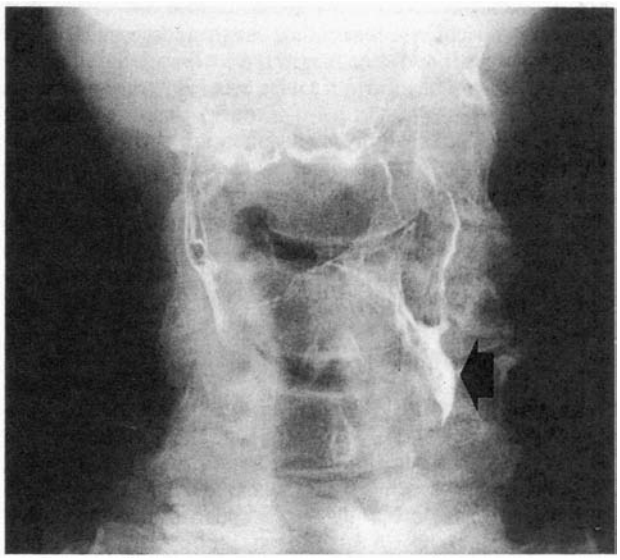

FIG. 2
Barium swallow roentgenogram demonstrating fistula (arrowed).

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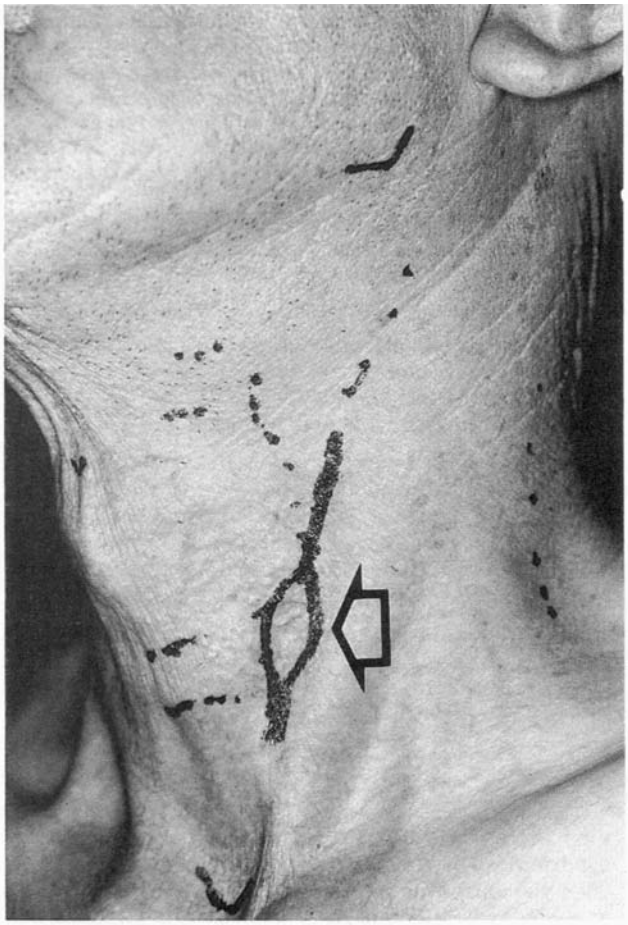

FIG. 3

Incision lines for the fistulectomy. The orifice of the skin fistula was excised (arrowed).

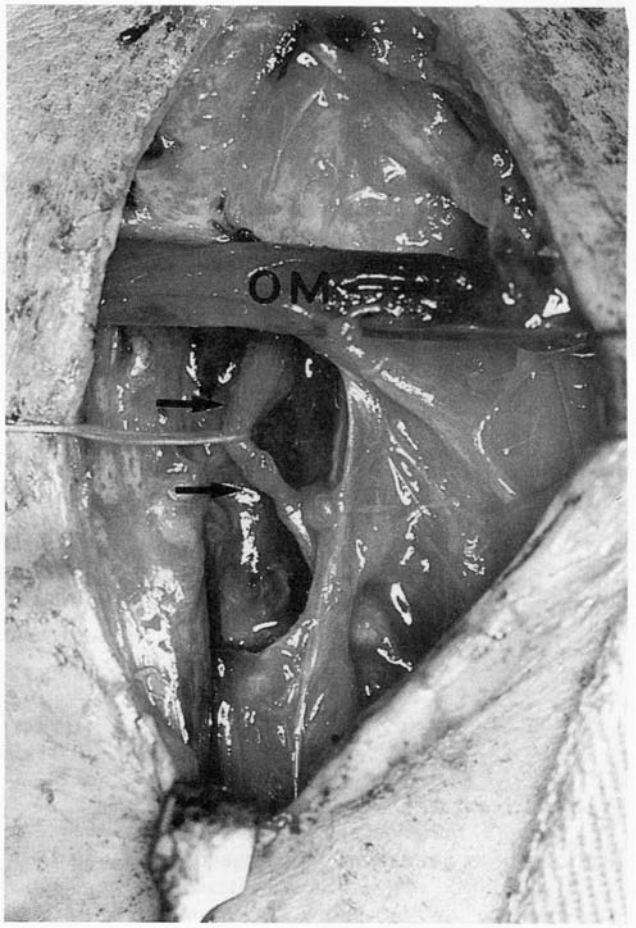

FIG. 4

Arrows showing the piriform sinus fistula. OM: Omohyoid muscle.

excised fistula and a part of the piriform sinus. Histological examination showed a tubular structure lined by a stratified squamous epithelium (Figure 6). There were a few lymph follicles in the wall of the fistula.

The post-operative course was uneventful and the patient was pleased with the outcome.

Discussion

It is well known that a piriform sinus fistula causes suppurative thyroiditis and most cases complained of pain in the left lobe (Takai *et al.*, 1979; Miyauchi *et al.*, 1981; English and Al-Hussani, 1983). There are only a few reports that a piriform sinus fistula also causes recurrent abscesses in the left anterior neck. Tucker and Skolnick (1973) reported a case of recurrent abscess in the neck in a patient with a fistula originating in the piriform sinus. Patients who complain of recurrent abscess in the neck, especially on the left side, should be examined by barium swallow as it is easy to diagnose a piriform sinus fistula using this method. The best treatment for a piriform fistula

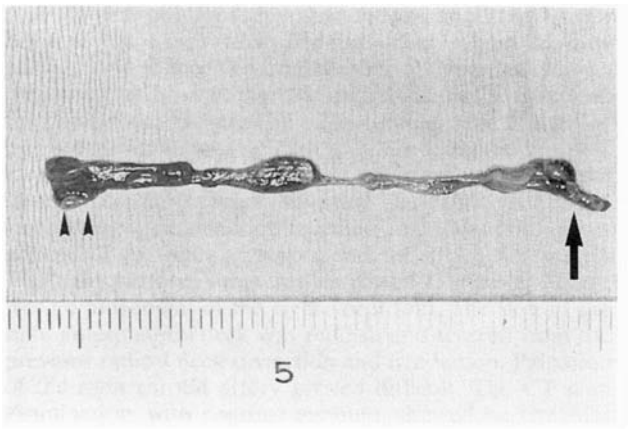

FIG. 5

Arrowheads showing the apex of the piriform sinus fistula and arrow showing the neck skin orifice which was excised.

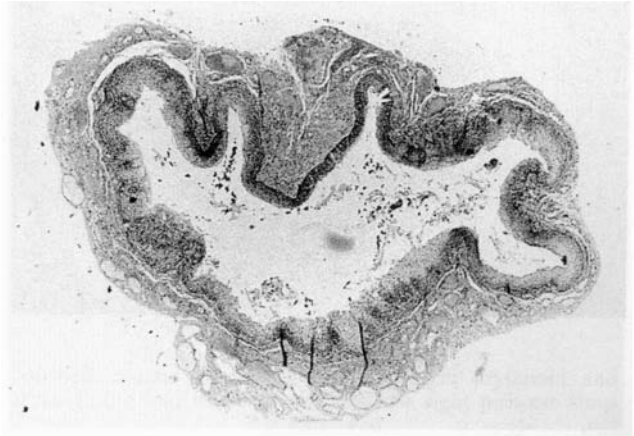

FIG. 6

Histological examination of the fistula showing a tubular structure lined by stratified squamous epithelium (x20).

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is fistulectomy, because recurrent abscesses sometimes cause a skin fistula as in this case.

Tucker and Skolnick (1973) stated that the fistula originated from an embryonic remnant of the fourth pharyngeal pouch. However, Miyauchi *et al.* (1981) reported that a piriform sinus fistula is a remnant of the third pharyngeal pouch, probably a remnant of the third pharyngobrachial duct, according to their anatomical and histological findings. They also described the clinical features in acute suppurative thyroiditis resulting from infection through a piriform sinus fistula as: (1) onset in infancy or childhood, except for a few cases which stated later; (2) left-sided involvement; and (3) frequent recurrences. They concluded that complete removal of the fistula is essential for a permanent cure.

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