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Hairy polyp of the tonsil

T. E. MITCHELL, F.R.C.S.*, A. C. GIRLING, M.R.C.PATH.†

Abstract
Hairy polyps or dermoids of the oro- and naso-pharynx are benign lesions containing elements of both ectodermal and mesodermal origin. We report a case of a hairy polyp arising from the tonsil in a three-week-old infant. This presented as an intermittent swelling in the mouth, which was successfully removed under general anaesthesia. To our knowledge this is only the third case of a hairy polyp arising at this site to be reported. We discuss the terminology applied to these lesions and review the literature.

Key words: Dermoid cyst; Tonsil; Choristoma

Introduction

Hairy polyps, or dermoids, are uncommon lesions of the oro- and naso-pharynx. They typically present at, or shortly after, birth with breathing or feeding difficulties. The symptoms depend on the size and location of the lesion and may be intermittent if the lesion has a sufficiently long pedicle. Occasionally, if asymptomatic, they may remain undetected until later in life.

To date, approximately 120 cases have been reported, the majority of which arise in the nasopharynx. We report what we believe to be only the third case of a hairy polyp arising from the tonsil.

Case report

A three-week-old female infant was referred to the ENT Department, Norfolk and Norwich Health Care NHS Trust with a history of a pink fleshy swelling appearing intermittently in her mouth. She was otherwise well and had no breathing or feeding problems. She had been born at term following a normal delivery and weighed 4.05 kg. Apart from mild jaundice in the first week of life, there were no other neonatal or obstetric problems. Clinical examination was normal and, in particular, the neck was unremarkable with no external evidence of any malformation.

A lateral neck radiograph suggested the presence of a swelling in the oropharynx (Figure 1). Examination under general anaesthesia in a supine position revealed a polypoid swelling lying in the nasopharynx. This was delivered into the mouth and was seen to arise from the upper pole of the left tonsil by a narrow pedicle. The swelling, measuring 4 cm in its maximum dimension, was removed by ligation and division of its pedicle (Figure 2). The child made an uneventful recovery and remains well.

Histological examination of the lesion showed it to consist of a central core of stroma, containing cartilage, fat, blood vessels, nerves and smooth and striated muscle, covered by squamous epithelium containing sebaceous glands, sweat glands and hair (Figure 3). These features are characteristic of a hairy polyp or dermoid.

Discussion

Hairy polyps occur six times more frequently in females

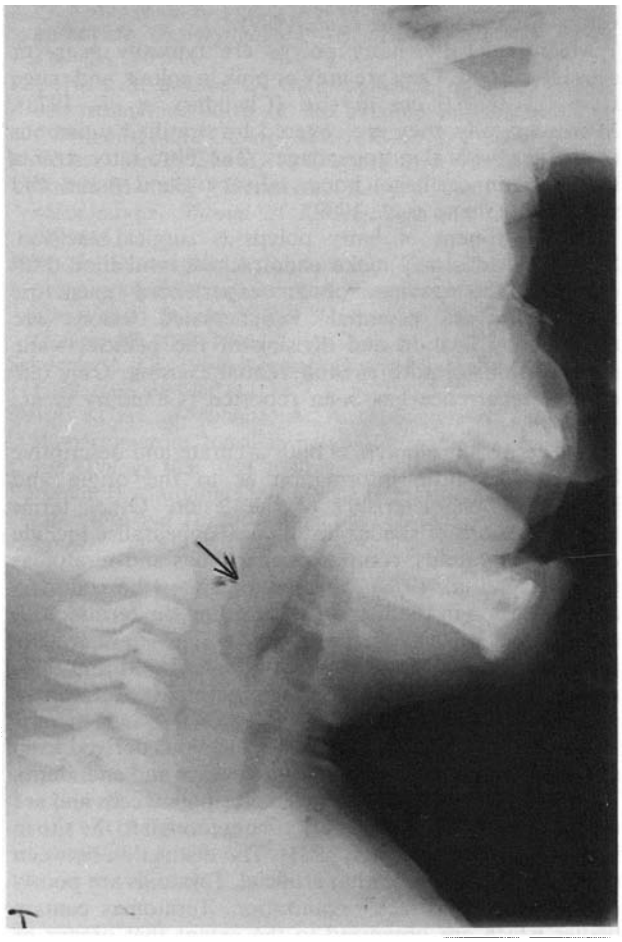

FIG. 1
Lateral radiograph showing a soft tissue mass in the pharynx (arrow).

From the Departments of Otolaryngology* and Histopathology†, Norfolk and Norwich Hospital, Brunswick Road, Norwich.
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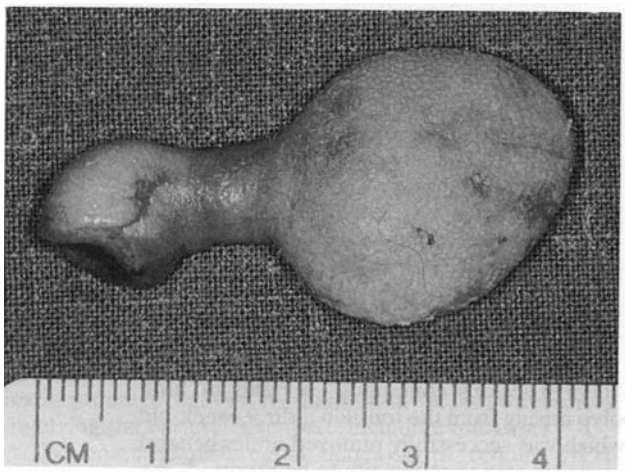

FIG. 2
The polyp after removal.

than males (McShane *et al.*, 1989). They are usually single, although a case in which there were two distinct polyps arising from the soft palate and the nasopharynx has been reported (Chaudhry *et al.*, 1978). They may be associated with other congenital abnormalities including ankyloglossia, clefts of the hard and soft palate, absence of the uvula, abnormal facial development (Brown-Kelly, 1918), atresia of the carotid artery (Chaudhry *et al.*, 1978) and osteopetrosis (McShane *et al.*, 1989).

Macroscopically, hairy polyps are typically pear- or sausage-shaped. They are grey or pink in colour, and range from 0.5 to 6.0 cm in size (Chaudhry *et al.*, 1978). Microscopically, they are covered by stratified squamous epithelium with skin appendages. The fibro-fatty stroma may contain cartilage, bone, salivary gland tissue and muscle (McShane *et al.*, 1989).

The treatment of hairy polyps is surgical excision. Sizeable lesions may make endotracheal intubation difficult and the services of an experienced paediatric anaesthetist are essential. Pedunculated lesions are removed by ligation and division of the pedicle, while sessile lesions require circumferential excision. Only one case of recurrence has been reported (Chaudhry *et al.*, 1978).

The term 'hairy polyp' is both accurate and descriptive but provides little information as to the origin and behavioural characteristics of the lesion. Other terms used for lesions of similar histological appearance include dermoids, teratoids, complex hamartomas and teratomas (Chaudhry *et al.*, 1978). This demonstrates the considerable confusion in the literature regarding the terminology of teratoid lesions of the pharynx. The most widely accepted classification, proposed by Arnold in 1888, recognizes four different groups: teratoids, teratomas, epignathi and dermoids.

Teratoids and teratomas contain elements derived from all three germ layers: ectoderm, mesoderm and endoderm. They are neoplasms originating in pluripotent cells and are composed of a wide diversity of tissues foreign to the site in which they arise (Heffner, 1983). The distinction between the two groups is somewhat artificial. Teratoids are poorly differentiated and lack organization. Teratomas contain tissues which are organized to the extent that organs or parts of organs can be recognized. It has been suggested that incomplete differentiation may result in one germ layer not being represented in some tumours with the heterogeneous features of a teratoma and that these tumours should be included in this category (Heffner, 1983).

Epignathi show the highest degree of differentiation of trigerminal tumours with recognizable foetal organs and limbs usually presenting into or through the mouth. They include the 'parasitic foetus' or 'foetus in fetu'. They are extremely rare and almost never compatible with life (Hjertaas *et al.*, 1979). The term *epignathus* was introduced because of the close association of these lesions with the jaw. However, some authors have used the term to include all teratoid lesions (Heffner, 1983).

Dermoids are the commonest of the four groups. They are bigerminal with elements of ectodermal and mesodermal origin. Nasopharyngeal dermoids, or hairy polyps, differ from dermoids elsewhere in being more solid than cystic and containing cartilaginous and muscle elements. This has caused some authors to consider them as teratomas without endodermal elements (Heffner, 1983).

Teratomas and teratoids are considered to be neoplasms. Thus, when McShane *et al.* (1989) describe hairy polyps as 'the most primitive form of teratoma', they imply that they are neoplastic. Resta *et al.* (1984) describe them as pseudoneoplastic. We agree with Chaudhry *et al.* (1978) that hairy polyps are not true neoplasms but appear to represent a developmental malformation in which the totipotential cells from two germ layers, the ectoderm and mesoderm, escape the physiological constraints which normally govern the growth and development of an embryo. Instead, these embryonic cells proliferate, differentiate, and form conglomerates of various tissues. However, they have limited growth potential.

Hamartomas have limited growth potential but are composed only of tissue types that are indigenous to the site at which the lesion arises (Heffner, 1983). Hamartomas of the tonsil have been described (Vardhan and Sardana, 1985; Shara *et al.*, 1991; Lupovitch *et al.*, 1993) but the presence of skin, cartilage and muscle in a lesion arising from the tonsil, as in this case, precludes it from being considered as an hamartoma.

Perhaps a more appropriate term for the hairy polyp would be a choristoma as suggested by Gundrum *et al.*

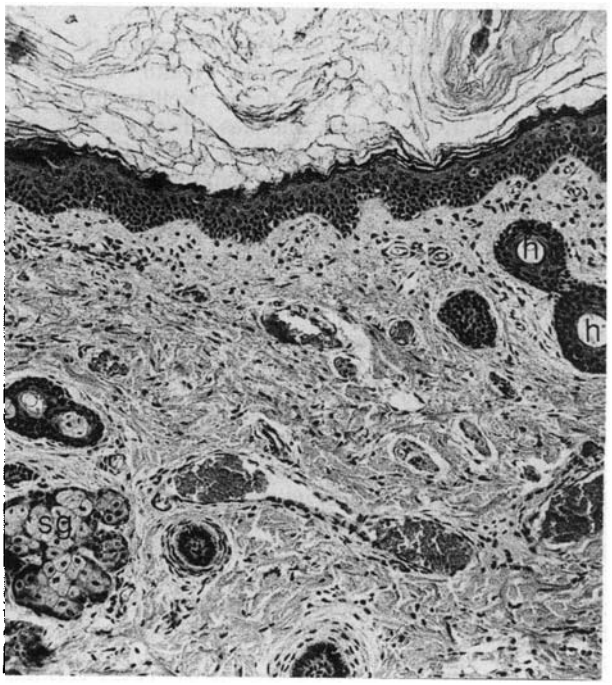

FIG. 3
Low power view of the polyp showing the surface epithelium and the stroma containing sebaceous glands (sg) and hair follicles (h) (H & E; × 10).

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(1954). *Choristos* means separated, and a choristoma is a benign mass of essentially normal tissue occurring in an abnormal location. A choristoma is similar to a hamartoma in being a non-neoplastic malformation with limited growth potential, but differs in having tissue types foreign to its anatomical site (Heffner, 1983).

It is difficult to be sure that hairy polyps have limited growth potential because they usually present and are removed early in life. However, a number of cases has been reported in adult life, including one in a 71-year-old man (Resta *et al.*, 1984), which suggests that the lesion is a malformation rather than a neoplasm. Chaudhry *et al.* (1978) state that, to their knowledge, 'there is no known case in which neoplastic transformation has occurred'.

The anatomical origin of hairy polyps is controversial. Schuring (1964) considered them to be accessory auricles arising from the first branchial arch. Kanzaki *et al.* (1988) report a case of a hairy polyp arising from the oropharynx close to the tonsillar fossa which closely resembled an auricle both macroscopically and histologically and suggest that this supports Schuring's hypothesis. Brown-Kelly (1918) proposed that the site of these lesions suggests that they arise from the second branchial arch. Indeed, we speculate that hairy polyps may arise as an internal overgrowth of the second branchial arch, similar to that occurring externally to create the cervical sinus. Others have suggested that they may represent inclusion errors in the fusion of the lateral palatine processes (Eggston and Wolff, 1947) or remnants of the nasopharyngeal membrane (Badrawy *et al.*, 1973).

Although about 120 lesions of the nasopharynx have been reported (McShane *et al.*, 1989), a review of the literature indicates that hairy polyps of the tonsil are very rare. Of the fifty cases reviewed by Brown-Kelly (1918), seven 'sprang from the tonsillar region' with four of them arising from the supratonsillar fossa, but he does not state whether any arose from the tonsil itself. To our knowledge, only two cases of lesions of the tonsil have previously been described. Harper (1924) described an enlargement of the tonsil in a nine-month-old which he suggested was a dermoid. However, the description of the histology is not sufficiently detailed to be sure as to the exact nature of the lesion. McShane *et al.* (1989) reported a case of a 2 × 3 cm pedunculated mass attached to the lower pole of the tonsil of a five-year-old boy who presented with haemoptysis. The histology of this lesion was similar to that of our case.

We therefore believe that the above case is only the third case of a hairy polyp or dermoid arising from the tonsil to be reported. We also believe that hairy polyps should be considered as developmental malformations or choristomas.

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Address for correspondence:
Mr T. E. Mitchell,
ENT Department,
Norfolk and Norwich Hospital,
Brunswick Road,
Norwich NR1 3SR.