Peripheral Nerve Tumours

There are four varieties of peripheral nerve tumours, all of which are derived from the proliferation of Schwann cells:

1. Neurilemmoma
2. Neurofibroma
3. Plexiform neurofibroma associated with neurofibromatosis
4. Malignant schwannoma

Each of these tumours has been identified in the nose and paranasal sinuses.

The typical neurilemmoma is encapsulated and consists histologically of spindle cells arranged in compact bundles with nuclear palisading and the characteristic Antoni type A and B areas. The plexiform neurofibroma and solitary neurofibroma are distinguished from neurilemmoma by the presence of axons: they are essentially fibrous lesions with nerve fibres traversing the tumour. Malignant schwannomata resemble the pattern of the neurilemmoma histologically, but the cells are obviously malignant.

Radiology and Imaging

Solitary tumours, usually neurilemmomata, may occur in the nose and sinuses (Fig. 13.1). One particular form can be readily diagnosed on plain radiography and by soft tissue imaging techniques. This is the infraorbital neurofibroma, which is often seen as a solitary lesion (Figs. 13.2, 13.3) but may be part of more generalised neurofibromatosis (Fig. 13.4). In either case it shows as a soft tissue mass in the roof of the maxillary antrum, causing expansion of the infraorbital canal.

Neurofibromatosis affects the orbit and skull generally and the changes which may occur are striking and characteristic: enlargement of the orbit is

Fig. 13.1. Coronal CT scan showing a solitary neurilemmoma in the right side of the nasal cavity.
Fig. 13.2a–c. Neurilemmoma of the infraorbital nerve shown on plain radiography (a) and on coronal hypocycloidal tomography (b). The sagittal tomogram (c) demonstrates enlargement of the infraorbital canal.

Fig. 13.3. Soft tissue mass associated with enlargement of the infraorbital canal (arrow). At surgery this was shown to be a malignant schwannoma.