Epulis of the newborn is a granular cell tumour which originates from the mucosa of the dental alveolar ridge in newborn infants. It presents as a pedunculated soft tissue mass, which may be a single lobe or multilobular, and can be up to several centimetres in diameter. Its striking clinical presentation was described in 1871 by Neumann, who coined the term ‘congenital epulis’ after the Greek epoulis (gumboil). The first case report in the English language was published in the British Medical Journal in 1884. It is a benign tumour of uncertain cellular origin and aetiology, which has a histological association with granular cell myoblastomas. Congenital epulides are reported more commonly in females than males (>8:1), perhaps implicating a hormonal component to their genesis. Difficulties with breast-feeding and respiratory obstruction are common, meriting surgical intervention; prenatal swallowing impairment presenting as polyhydramnios has also been reported. Only 10% present as multiple polyps and the maxilla is a more common site of origin than the mandible (3:1). Classically, epulides will arise on the pre-incisor alveolar margin.

Although congenital epulides are not normally associated with other congenital abnormalities, they have been described in conjunction with neurofibromatosis and polydactyly. There are several reports of ultrasonic prenatal detection of oral masses in the third trimester which were subsequently diagnosed as congenital epulides at term.

Case report
A 2-day-old girl born at term by Caesarean section was scheduled for removal of five congenital oral masses in a...
tertiary care paediatric hospital (Royal Hospital for Sick Children, Glasgow).

The baby weighed 3.3 kg, and had two large lesions on the alveolar ridge of the maxilla and three smaller lesions on the mandible (Fig. 1). The masses were pedunculated and covered with mucosa which was macroscopically normal and had brisk capillary refill. A nasogastric tube had been placed due to feeding difficulties and the baby was breathing air with no support. No other health issues were apparent. Mouth opening was normal, and when the baby was awake it was possible to view the fauces with gentle displacement of the tongue by a size 1 Miller laryngoscope blade.

Prior to anaesthesia, atropine 0.1 mg was administered intravenously, standard monitoring instituted and the presence of the surgeon confirmed.

Pre-oxygenation was started using a size 3 facemask (Vital Signs Ltd) and anaesthesia was induced by spontaneous ventilation with halothane 0–5% and oxygen. It was established that manual ventilation was possible with an Ayres T-piece, and once the depth of anaesthesia was judged sufficient, a size 1 Miller laryngoscope blade was carefully introduced with an assistant gently pulling the upper two epuli aside. Laryngoscopy revealed a good view of the vocal cords with the aid of gentle cricoid pressure. The trachea was intubated with a 3.5 mm internal diameter uncuffed endotracheal tube. Vecuronium 0.1 mg kg\(^{-1}\) and morphine sulphate 0.1 mg kg\(^{-1}\) were then given intravenously and the oral tube changed to a nasal tube to facilitate surgery (Fig. 2). Anaesthesia was maintained with isoflurane 0–2% and an oxygen–air mixture. Maintenance of anaesthesia proceeded uneventfully. The growths were excised after ligating the pedicle with a suture and delicate cautery was required to achieve haemostasis (Fig. 3). The overall operating time was approximately 30 minutes. Blood loss was minimal and the child received human albumin solution 4.5% (10 ml kg\(^{-1}\)). The baby was then transferred back to the neonatal unit for uneventful extubation of the trachea after observation.

The histological diagnosis was consistent with congenital epulides.

**Discussion**

Although this female child presented with the classical features of congenital epulis, the extent and number of lesions...
were greater than has been previously reported. Important components in the differential diagnosis of pedunculated anterior oral masses in the neonate include a melanotic neuroectodermal tumour of infancy, which possesses malignant potential and requires complete surgical excision,\textsuperscript{11} malignant granular cell myoblastoma, alveolar rhabdomyosarcoma, and chondrogenic and osteogenic sarcomas. Where a prenatal diagnosis of oral mass has been made there is a strong case for antepartum transfer to a centre with neonatal surgical facilities.

Our main concerns preoperatively were a potentially difficult intubation due to inadequate access and oral bleeding as a risk to the airway in view of the multiple masses and their brusk vascular supply. There are reports of excision of less numerous and less extensive congenital epulides by local anaesthesia,\textsuperscript{6,7} when local anaesthetic was infiltrated to the base of the pedicle (P. J. M. Crawford, personal communication). Although there is a report of excision of simple epulis ‘without anaesthesia’,\textsuperscript{10} we consider that in a situation which is not an emergency it is necessary to alleviate the stress and pain associated with the surgical procedure. In the case presented to us, we believed general anaesthesia and isolation of the airway by endotracheal tube to be required in view of the relative complexity of the lesions.

Prior to embarking on induction of anaesthesia, we ensured that an experienced surgeon capable of emergency tracheostomy was present in theatre. Owing to the potential for airway obstruction during induction of anaesthesia, a gaseous induction was performed. A seal with a facemask was achieved only by using a size much larger than would normally be required for a neonate, and the ability to maintain the airway by manual ventilation was established prior to proceeding with controlled ventilation. If it had been impossible to establish the airway under anaesthetic while the infant was breathing spontaneously, the option remained to withdraw the anaesthetic agent and awaken the baby. The patient remained intubated for transfer to the neonatal unit and a planned extubation took place once spontaneous ventilation was adequate and haemostasis was ensured.

Because the masses were pedunculated, and therefore relatively mobile, there was adequate access to the larynx directly. Had there been a possibility that they were a fixed obstruction, then alternative plans had been considered. An assortment of facemasks, laryngoscope blades, a size 1 laryngeal mask and a 2.7 mm fibre-optic bronchoscope to facilitate intubation were available.\textsuperscript{12}

References

1 Neuman E. Elin fall von congenitaler epulis. Arch Heilkd 1871; 12: 189
2 Gore A.A. A case of congenital epulis Br Med J 1884; 1: 664