

## CASE REPORT

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**Malignant gastric teratoma: case report**

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**Abstract** Gastric teratomas are rare and usually benign. A 4 month old boy presented with an abdominal mass and computed tomographic and ultrasound examination demonstrated a large multi-loculated tumour which was totally excised. The pathological diagnosis was of a malignant gastric teratoma and 12-month follow-up was uneventful.

**Key words** Abdominal mass · Gastric teratoma · Malignant teratoma

**Introduction**

Teratomas involving the stomach are extremely rare comprising less than 1% of all teratomas. Males are affected more often than females and present in the first year of life [1]. We present a case of gastric teratoma, with malignant elements, which was successfully excised.

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**Case report**

A 4-month-old male was referred to a cardiologist due to an ejection systolic cardiac murmur. He was otherwise well and the murmur was assessed as a small ventricular septal defect needing no further investigation or treatment. Further examination, however, revealed a 12 × 6-cm, mobile mass in the left upper quadrant of the abdomen. Ultrasound (US) and computed tomographic (CT) scanning showed a large, multi-loculated tumour of mixed echogenicity with solid and cystic areas and calcification. It was closely related to the retroperitoneum and separate from the spleen, left kidney, and left lobe of the liver. Vanilmandelic acid, alpha-fetoprotein (AFP), and human chorionic gonadotropin levels were appropriate for age. There was mild neutrophil leucocytosis as well as mild thrombocytosis.

A laparotomy confirmed a large, multi-cystic tumour arising from the posterior wall of the stomach. It was well-encapsulated and able to be excised with a small wedge of gastric wall. Histological examination demonstrated a mixed germ-cell tumour with mature teratoma and microfoci of immature neuroglial elements. In addition, there was a microfocus of endodermal sinus tumour (Figs. 1 and 2). The surgical resection margins were clear.

The child made an uneventful recovery and was allowed home on day 7 following the procedure. Twelve months following the surgery, he was noted to be progressing well with satisfactory weight gain and feeding pattern. US showed no signs of tumour recurrence and AFP levels remained normal.

**Discussion**

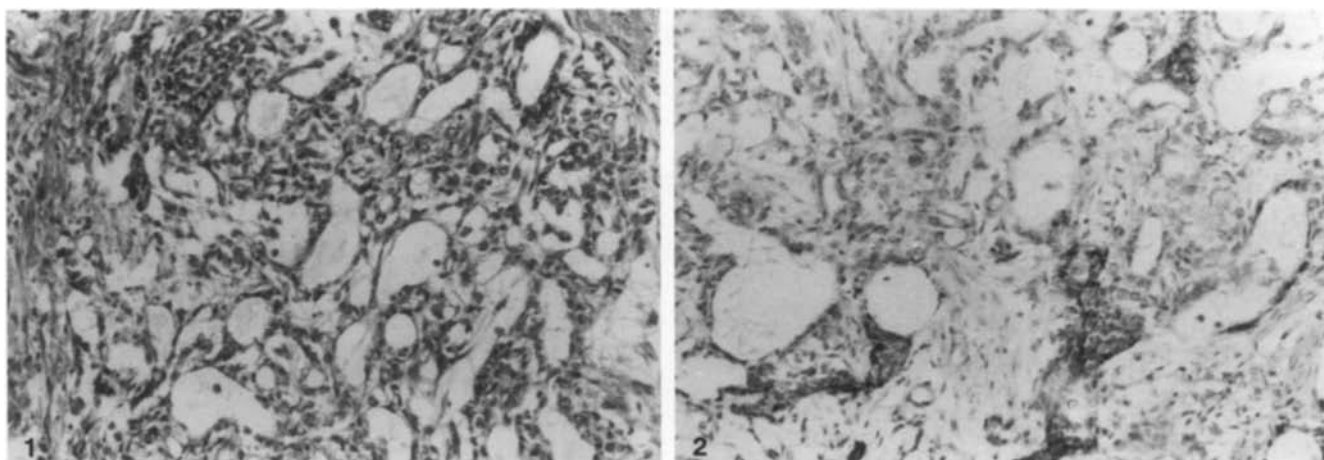
Gastric teratomas are extremely rare tumours, and account for less than 1% of all teratomas. They most commonly

occur in males under the age of 12 months and tend to arise from the greater curve [1]. The lesion may involve the whole of the stomach or only a portion of the wall. Abdominal distension is the usual presenting symptom, although gastrointestinal haemorrhage, fever, anorexia and constipation have been associated with this condition [2–4]. The diagnosis can be assisted by US or CT scanning, but must be confirmed by the histological finding of three germ-cell layers. The differential diagnosis can include neuroblastoma, hepatoblastoma, and infantile haemangioendothelioma [5].

The tumour has previously been said to be 100% benign. Surgical excision is curative and no cases of post-operative recurrence have been reported [6]. The histological features of this child's tumour make further surveillance important.

**References**

1. Cairo M, Grosfeld J, Wheatman R (1981) Gastric teratoma: an unusual cause for bleeding in the upper gastrointestinal tract in the newborn. *Pediatrics* 67: 721–724
2. Esposito G, Cigliano B, Paludetto R (1983) Abdomino-thoracic gastric teratoma in a female newborn infant. *J Pediatr Surg* 18: 304–305
3. Haley T, Dimmler M, Holler P (1986) Gastric teratoma with gastrointestinal bleeding. *Pediatr Surg* 21: 949–950
4. Niedzwiecki G, Wood B (1990) Gastric teratoma. *Am J Dis Child* 144: 1147–1148



5. Ravikumar V, Ragupathy R, Das L, Palanimuthu M, Ravi N, Sekar P, Vimala R (1986) Gastric teratoma in an infant. *J Pediatr Surg* 21: 948
6. Senocak M, Kale G, Buyukpamukcu N, Hicsonmez A, Caglar M (1990) Gastric teratoma in children. *J Pediatr Surg* 25: 681–684

**Fig. 1** An area of yolk-sac tumour (endodermal sinus tumour) within an otherwise mature teratoma (Magnification  $\times 400$ )

**Fig. 2** Area of endodermal sinus tumour (yolk-sac tumour) shows positive staining for alpha-fetoprotein (Magnification  $\times 400$ )