

Rare Case of Foetal Nasal Polyp Detected in Utero: Role of Imaging and Perinatal Airway Management

Xue Lin Ang¹, Wang Ching Chua², Vairavan L. Velayudham³, Hasya Abu Hassan⁴, Anuar Idwan Idris⁵, Noorjehan Omar⁶, Maizatul A. Musa⁷

1. Obstetrics and Gynaecology, Hospital Sultan Idris Shah Selangor Malaysia, 2. Obstetrics and Gynaecology, KPJ Sentosa Kuala Lumpur Malaysia, 3. Maternal Foetal Unit, Hospital Sultan Idris Shah Selangor Malaysia, 4. Radiology, Universiti Putra Malaysia Selangor Malaysia, 5. Otorhinolaryngology, Hospital Tuanku Azizah Kuala Lumpur Malaysia, 6. Pathology, Hospital Sultan Idris Shah Selangor Malaysia, 7. Paediatrics, Hospital Sultan Idris Shah Selangor Malaysia

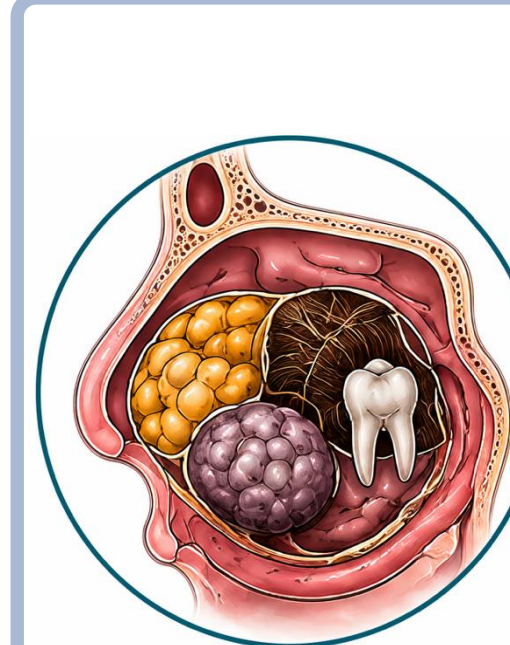
Introduction

- Congenital nasal masses are rare but may compromise the neonatal airway
- Prenatal ultrasound and MRI define tumour extent and airway involvement, enabling multidisciplinary delivery and airway planning

Case Summary

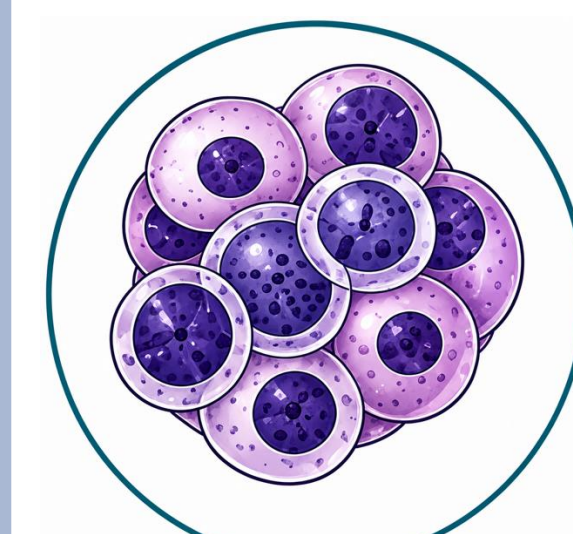
- 21-year-old primigravida with normal anomaly scan
- Referred for right nasal polyp detected at 28 weeks
- Nasal mass arising from the base of right nasal cavity and obstructing left nasal cavity
- No central nervous system or nasopharyngeal extension and avascular on Doppler

Differential Diagnoses



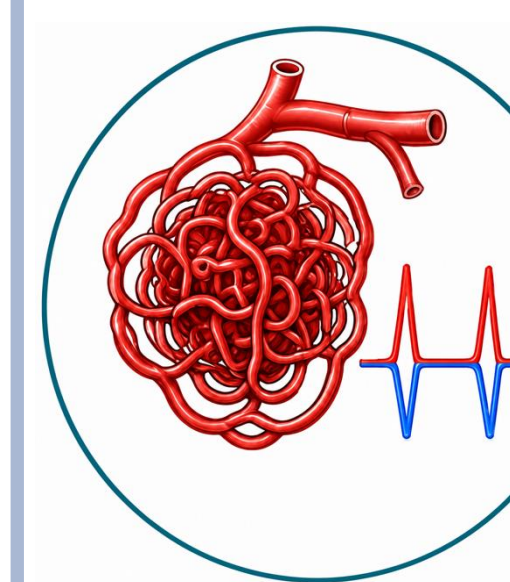
Teratoma

- Mixed solid-cystic
- Heterogeneous/fatty on MRI
- Rapid growth
- Midline location
- Increased AFP



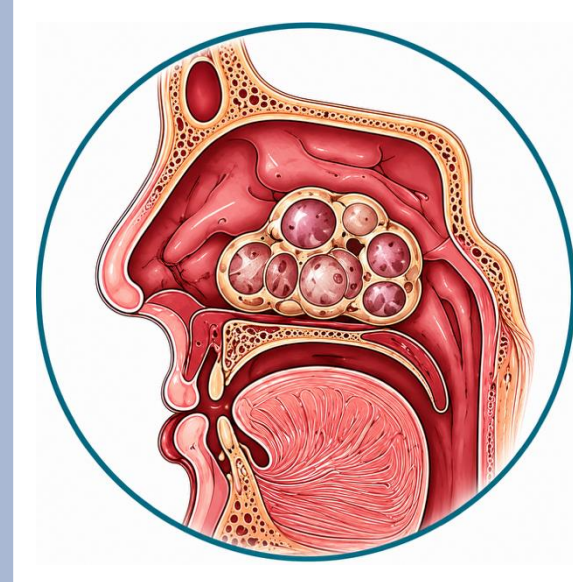
Yolk sac tumour

- Associated with elevated AFP
- Avascular



Haemangioma

- Typically solid lesion
- Vascular on Doppler
- Less likely if avascular



Hamartoma

- Usually well-circumscribed
- Non-invasive
- Limited growth

Prenatal Imaging

- 25 weeks: Normal anomaly scan
- 28 weeks: Right nasal solid-cystic mass identified
- 29 weeks: Referral to maternal-foetal medicine
- 30 weeks: Mass 2.77 x 1.85 cm
- 31 weeks: Foetal MRI: Mixed solid-cystic nasal mass extending into the nasopharynx and beyond the right nasal aperture; no intracranial extension
- 32 weeks: Mass 3.73 x 2.86 cm with contralateral left nostril obstruction

Investigations Declined



- Amniocentesis
- Amniotic fluid AFP

Perinatal Management

33 weeks: Polyhydramnios with preterm labour

Rapid tumour enlargement with progressive upper airway obstruction prompted multidisciplinary planning for Ex utero intrapartum treatment (EXIT)

EXIT: Airway secured within 5 minutes before completion of delivery

Day 12: Biopsy performed

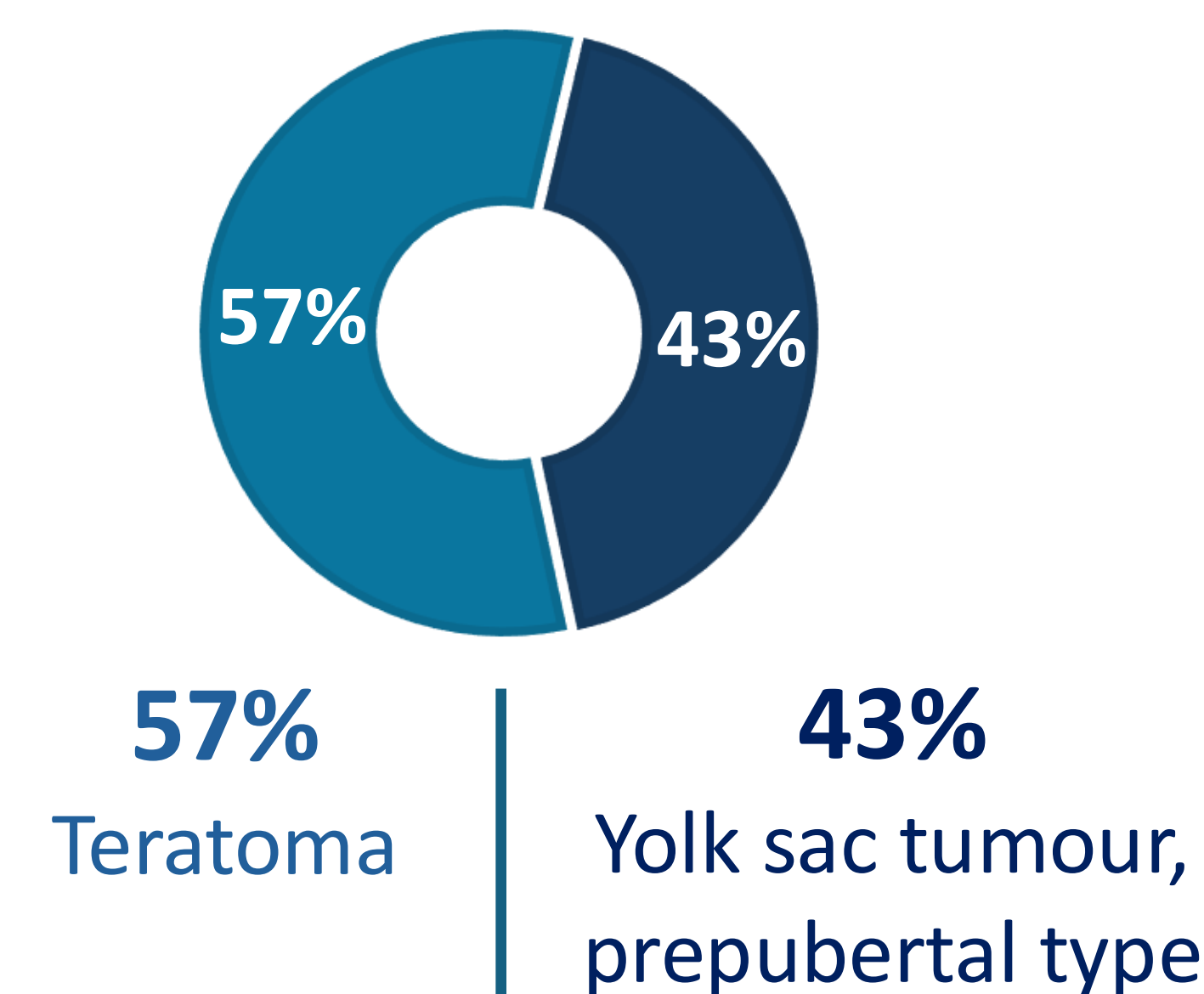
Day 43: Definitive surgery – complete endoscopic excision
Endoscopic examination identified five nasal masses intraoperatively

External nasal | Right nasal cavity | Sphenoid sinus | Posterior septal | Right nasal floor

Postnatal Diagnosis and Follow Up

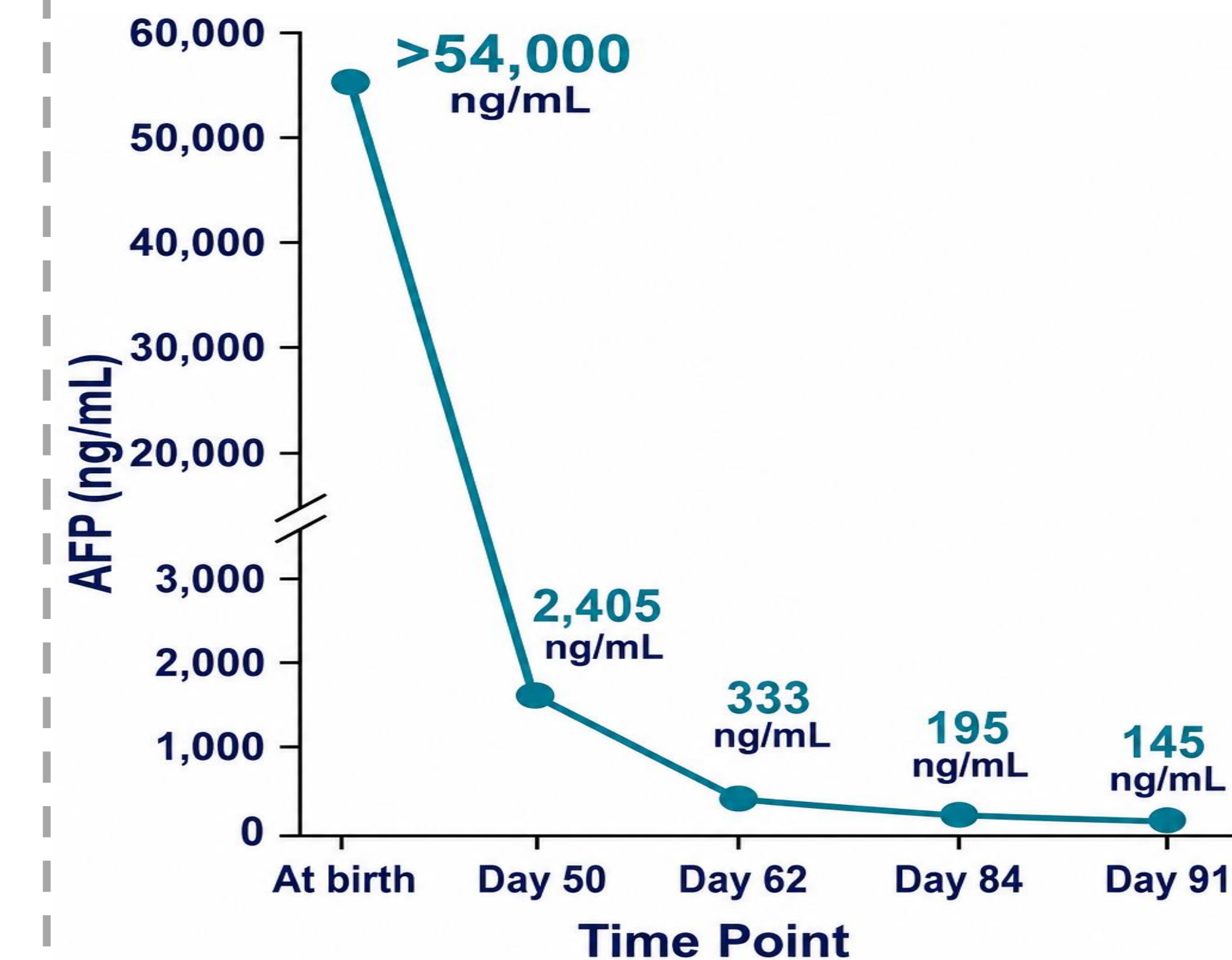
Histopathology

Congenital extragonadal mixed germ cell tumour



Following complete excision, the infant remained well with no radiological evidence of recurrence or metastasis and ongoing AFP surveillance is reassuring

AFP Trend



Discussion

- Serial ultrasound demonstrated rapid tumour growth and airway obstruction
- MRI defined tumour extent and guided EXIT planning
- Mixed histology warrants continued AFP surveillance



Conclusion

Prenatal recognition of impending airway compromise enabled planned EXIT and safe airway control, followed by definitive excision and tumour marker surveillance

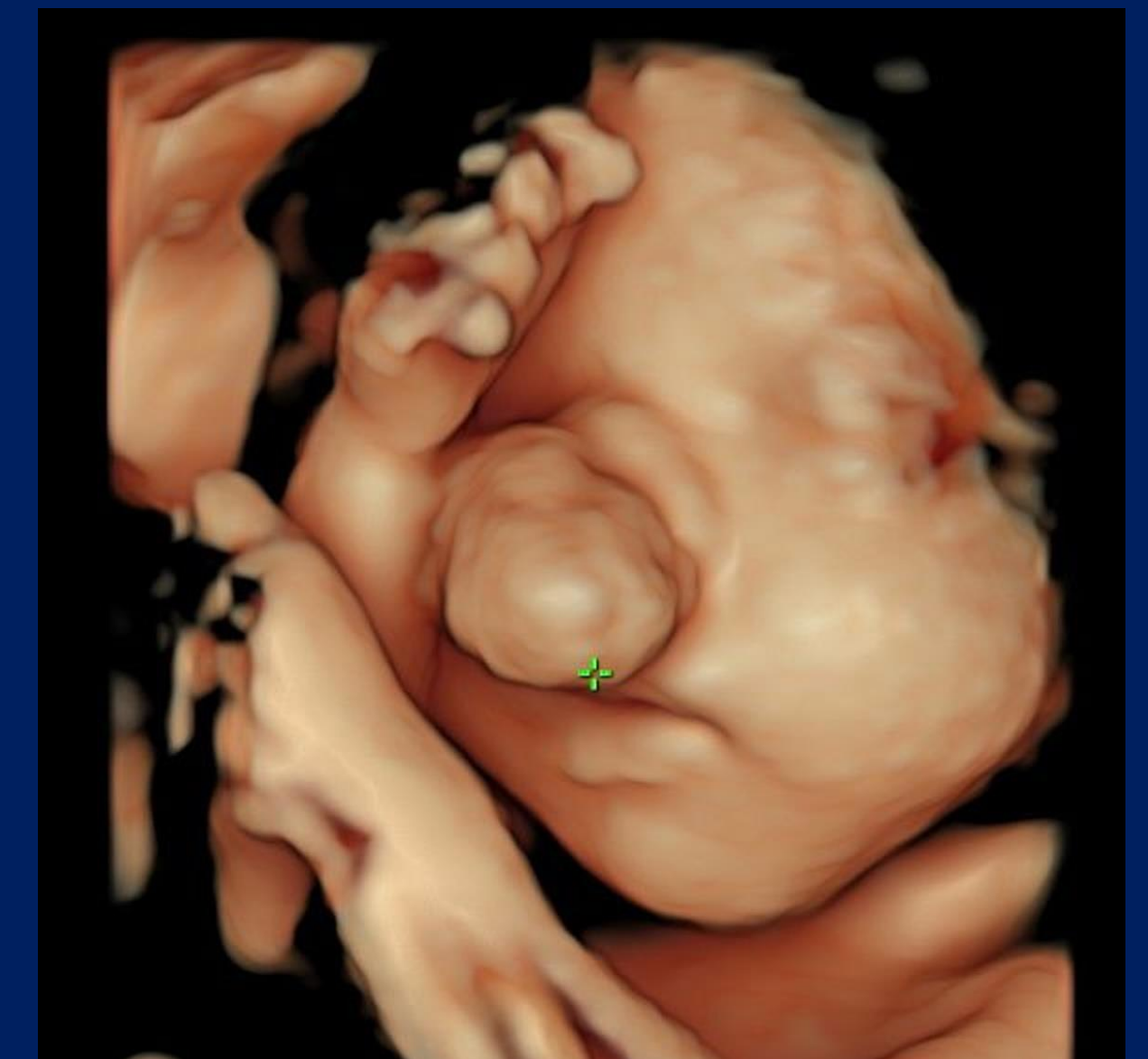


Figure 1. 3D ultrasound showing a mass arising from the right nasal cavity base and obstructing the left nostril

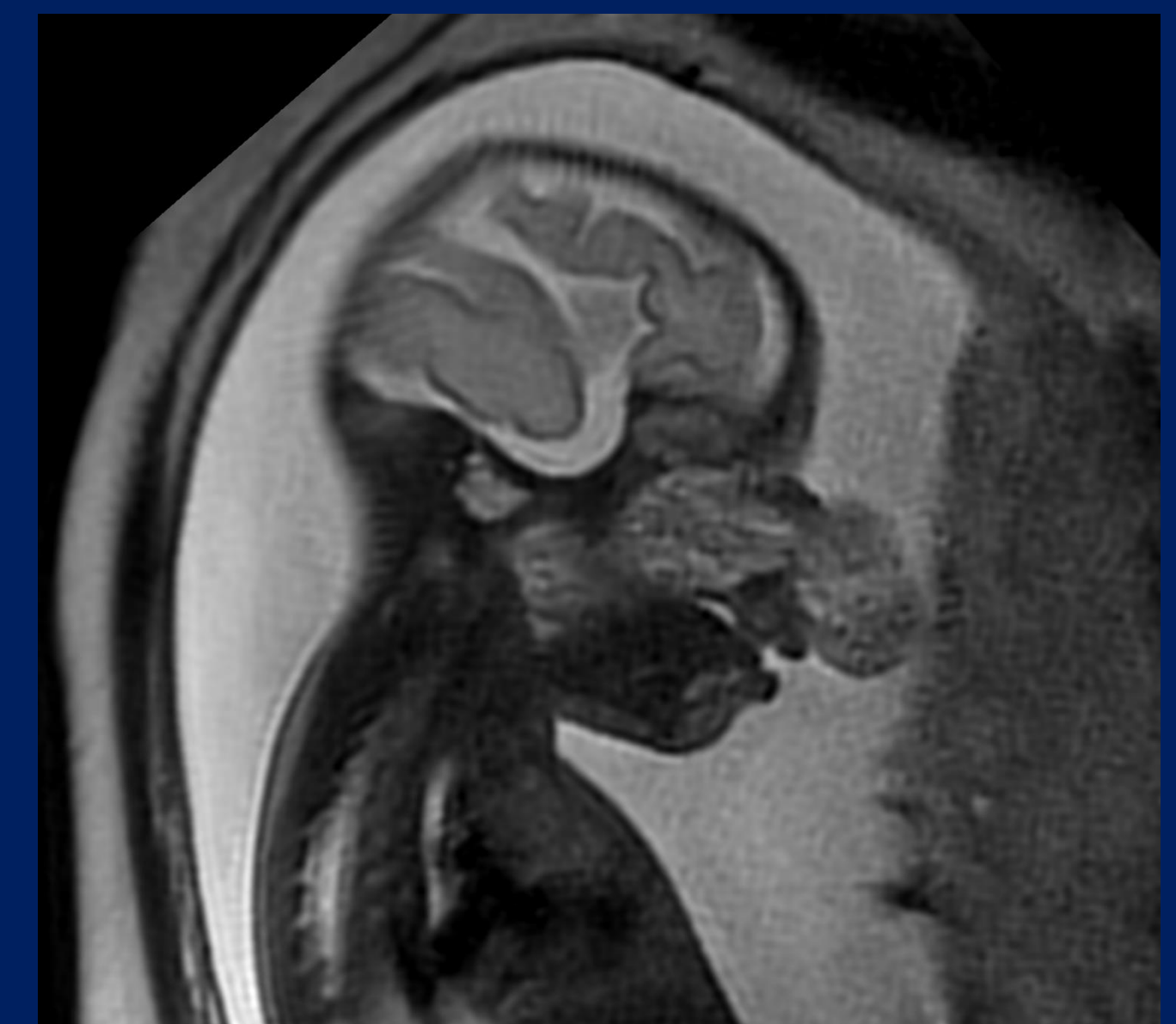


Figure 2. Sagittal T2 SSH MRI showing a multilobulated mixed solid-cystic mass occupying the foetal nasopharynx and extending through the nostril



Figure 3. Nasal mass following EXIT and delivery