

# Resolution of hepatic hemangiomas and consumptive hypothyroidism in an infant treated with propranolol and levothyroxine

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## BACKGROUND

- Hemangiomas are benign endothelial cell neoplasms and the most common tumours of infancy.
- Present within the first 2 months of life, proliferate during the first year, then gradually involute.
- Though histologically benign and frequently asymptomatic, infantile hepatic hemangiomas (IHH) can manifest as:
  - ➔ congestive heart failure & vascular shunting
  - abdominal compartment syndrome
  - hepatic failure
  - consumptive hypothyroidism
  - death (in the most severe cases)



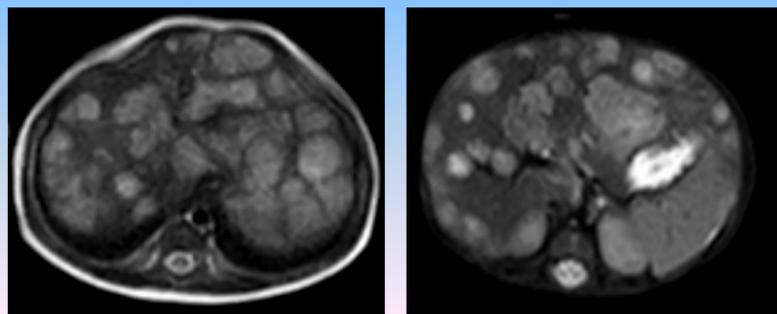
## CASE PRESENTATION

Healthy female twin, born via NVD at 34+4 weeks

Aged 11 days ➔ poor feeding, pallor, raised CRP

Aged 3 weeks ➔ reduced GCS, pallor, ↑ HR & RR, epistaxis after feeding, petechiae, abdominal distension, cried when flat (orthopnoea)

Aged 8 weeks ➔ unresponsive episode, poor feeding, **distended tense abdomen**:



MRI images showed innumerable hypoechoic nodules within the liver consistent with *diffuse infantile hepatic hemangiomatosis*

Deranged LFTs and coagulation profile

AFP – **1165** (NR 0-10 KU/L)

NT-ProBNP – **1492** (NR <115 ng/L). Good response to diuretics

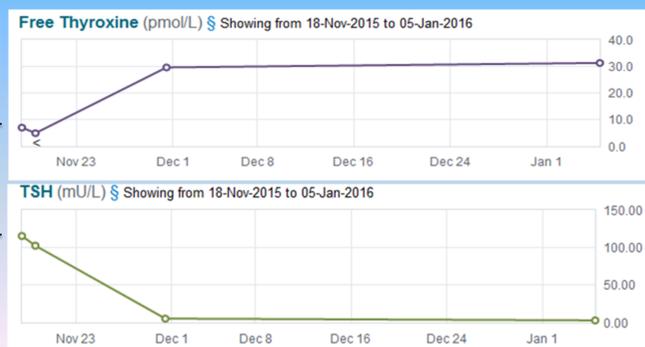
Echo – normal cardiac function, mildly dilated left heart

## THYROID BIOCHEMISTRY

In view of the radiological findings, TFTs were checked and were

**abnormal**: fT4 **7.1** (NR 9-25 pmol/L)  
TSH **115** (NR 0.35-4.94 mU/L) } *Consumptive hypothyroidism*

Levothyroxine  
9.6 mcg/kg/day  
initiated



## CUTANEOUS SIGNS



Three small (<3mm) cutaneous hemangiomas: left lateral canthus, lateral aspect of right thigh, and left axilla (noted incidentally during abdominal USS)

## THE ROLE OF PROPRANOLOL

**1mg/kg/day** in two divided doses commenced: ↑ to **2mg/kg/day** after five days.

BP, HR, BM closely monitored: no side effects.

GGT 522 ➔ 426 (NR 6-42 U/L) and continued to ↓.

Repeat USS at 18 weeks: ↓ hepatomegaly, ↓ size & number of liver lesions.

Correlated with involution of cutaneous infantile hemangiomas.



[Trend in GGT over time. The arrow indicates when propranolol was commenced]

## SUMMARY

We report a case of diffuse IHH with systemic compromise (in the absence of obvious cutaneous clues) successfully managed with propranolol as a 1<sup>st</sup> line agent, well tolerated and with no adverse effects. Early recognition of coexisting hypothyroidism resulted in prompt specialist involvement & timely treatment.