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

V.Campbell, R.Beckett, N.Abids, S.Hoey

Department of Dermatology, Royal Victoria Hospital, Belfast, Northern Ireland, UK
Paediatric Endocrine & Growth Department, Royal Belfast Hospital for Sick Children, Northern Ireland, UK

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.
GTT 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.

SUMMARY

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