

# Awareness of the risks of acquired iodine deficiency in strict Vegan diets

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## BACKGROUND

- Iodine deficiency is the most common cause of acquired hypothyroidism worldwide but is rare in developed countries
- Incidence of iodine deficiency may be rising due to increased popularity of vegan diets
- There is minimal information on official health promotional webpages alerting to this risk

## CASE REPORT

- We present a 2.5yr old boy and his 6yr old sister from a family who adhere to a strict vegan diet who have further imposed additional dietary restriction including a gluten free diet. Both children have been on a vegan diet since birth and neither underwent neonatal screening.
- The children's parents saw a private paediatrician as the younger brother had thin fine hair and his growth had tailed off and he was  $<0.2^{\text{nd}}$  for height which was outside the mid-parental height range and weight was  $0.4\text{--}2^{\text{nd}}$ .
- TFTs in siblings were performed and both children were commenced on iodine supplements and multi-vitamins, in addition the boy was given Vit B12 and iron due to further deficiencies.
- The biochemistry lab at the hospital picked up the boys results and as could not see a referral to endocrinology made an urgent referral themselves (tab.).
- Both children had been commenced on supplements for 2 months when first seen at the hospital

	Brother	Sister
TSH [miu/L] before starting iodine supplementation	187	7.04
FT4 [pmol/L] before starting iodine supplementation	$< 4$	16
Antibodies	negative	negative
Thyroid US	n/a	diffusely enlarged goitre
TSH [miu/L] after iodine supplements	0.44	2.10
FT4 [pmol/L] after iodine supplements	15.2	22.3

- The results for both children showed normalisation of their thyroid function (tab).
- Both children were referred to a dietitian for formal assessment of their diet and advice on appropriate supplementation with a vegan diet.
- The parents reported that they had gone onto NHS and other health webpages for Vegan children and had followed advice given, however had not seen anything documented about iodine supplementation. They reported that there was a lot of information out there promoting vegan diets as a healthy lifestyle choice and had not noticed any warnings regarding hypothyroidism from iodine deficiency being clearly highlighted. Other deficiencies such as iron, protein, Vit B12, Omega-3 and calcium are well documented.

## CONCLUSION

This case highlights the risk for iodine deficiency in children on vegan diets and the risk of acquired hypothyroidism and goitre. Recognition in developed countries of the risk of hypothyroidism in Vegan children needs to be made more widespread. Doctors should ensure adequate supplementing with iodine in children on vegan diets.

