LYMPHOCYTIC HYPOPHYSEITIS: SPONTANEOUS RESOLUTION ON MRI WITH PROGRESSION OF ENDOCRINE DEFECT

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SUMMARY Lymphocytic hypophysitis is an uncommon condition that typically occurs during the last trimester of pregnancy or in the postpartum period. Presentation is of an anterior pituitary mass with varying degrees of pituitary dysfunction. We present a case in which there was dramatic resolution of the pituitary lesion on sequential MRI scanning. Despite this apparent resolution, however, the patient continues to have significant pituitary dysfunction. (Int J Clin Pract 2001; 55(5): 339-340)

A 31-year-old woman presented with galactorrhea nine months postpartum. There were no antenatal or peripartum complications. She had stopped breast feeding six months postpartum and started taking a combined oral contraceptive (Microgynon 30), after which lactation had stopped. Eighteen weeks later she developed galactorrhea. Her prolactin was found to be elevated at 2320 mIU/l (normal <480 mIU/l) and she was started on bromocriptine, after which the galactorrhea resolved. When bromocriptine was stopped, however, the galactorrhea recurred.

At presentation to our clinic she had an elevated prolactin of 2104 IU/l. Thyroid function tests showed a low normal free T4 (FT4), a low T3 (FT3) and an inappropriately normal thyroid stimulating hormone (TSH). Random growth hormone (GH) and insulin-like growth factor 1 (IGF1) were normal. Afternoon cortisol and the cortisol response to 250 mg i.m. synacthen were normal. Liver function tests, chest X-ray, ESR and autoimmune profile were all normal. Perimetry showed normal visual fields. Pituitary MRI showed an enlarged pituitary approaching the optic chiasm with marked diffuse enhancement with gadolinium (Figure 1). A provisional diagnosis of lymphocytic hypophysitis with a differential diagnosis of a pituitary tumour was made. The patient was restarted on bromocriptine, which was then changed to cabergoline. Both were stopped after a short while because of side-effects. The patient also stopped taking Microgynon 30.

Five months later the patient was having regular normal menstrual periods with no further galactorrhea. The pituitary MRI appearance was unchanged but the hormonal abnormalities had changed: FT4 and FT3 levels were now both low; TSH was low; GH was undetectable and the IGF-1 level was very low. Prolactin level was now undetectable, although the patient had been off cabergoline for over a month.

An insulin stress test demonstrated GH deficiency but showed a normal cortisol response. A simultaneous thyrotropin releasing hormone (TRH) test demonstrated pituitary hypothyroidism. Thyroxine replacement therapy was started. Over the next 12 months visual fields, prolactin and cortisol remained normal, while TSH, GH and IGF1 remained low. Nine months after presentation, repeat pituitary MRI showed reduction in the pituitary lesion; contrast-enhanced MRI 18 months after presentation showed a normal pituitary (Figure 2). The patient stopped taking thyroxine herself with no untoward effects. A subsequent repeat TRH test showed resolution of the pituitary hypothyroidism, although the prolactin response was reduced.

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Two months later the patient reported tiredness, dry skin and muscle wasting. GH and IGF1 levels were low. The patient refused to undergo a second insulin tolerance test, so the alternative growth hormone releasing hormone (GHRH) test was performed. This demonstrated marked GH deficiency. A simultaneous TRH test showed a normal response. The patient was started on recombinant GH replacement therapy which resulted in resolution of her remaining symptoms. She now wishes to undergo a second pregnancy.

**DISCUSSION**

It seems likely this is a case of lymphocytic hypophysitis, although we do not have a definitive histological diagnosis. A planned pituitary biopsy was cancelled when it became apparent that the pituitary lesion was resolving. It is possible this was a pituitary tumour which infarcted, but this seems much less likely given the relationship of presentation to a recent pregnancy; the diffuse enhancement with gadolinium on MRI scanning, the resolution of the pituitary mass and the pattern of hormonal deficiency. In addition, there were no symptoms suggestive of pituitary infarction. Lymphocytic hypophysitis is thought to be an autoimmune disorder and is associated with autoimmune disease. Our patient had no history or family history of such conditions.

The natural history of lymphocytic hypophysitis is poorly understood. There is some evidence that there may be spontaneous shrinkage of the pituitary mass. This case is of interest as we have shown dramatic resolution of the pituitary lesion over a period of 18 months. It supports a conservative approach to the treatment of this condition where vision is not under threat. Anecdotal reports suggest that bromocriptine may reduce the size of the lesion. We feel that dopamine agonist therapy is unlikely to have affected the lesion in this patient, because it was short-lived.

The case is noteworthy in that there appears to have been the development of complete GH deficiency despite resolution of the pituitary enlargement, while at the same time the pituitary hypothyroidism returned to normal. Our patient has responded well to GH replacement. We do not for know how long this will be necessary. This patient would like to have further children. There is at present very little information to indicate the risk of relapse of lymphocytic hypophysitis in subsequent pregnancies.

**REFERENCES**