

Asynchronous delayed Growth Hormone co-secretion in a patient with a macroprolactinoma whilst on dopamine agonist therapy

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Introduction

Co-secretion of growth hormone and prolactin in pituitary adenomas is common. Based on studies, up to 25% growth hormone producing adenomas cosecrete prolactin.¹ However, the prevalence of GH secretion among prolactinomas is unknown but thought to be rare.²

We present a case of co-secretion of growth hormone in pituitary macroprolactinoma with an interesting timeline.

Case History

Mr TL, a 48 year old gentleman, presented originally with a 8mm prolactinoma. He presented with reduced libido for 6 months, and lethargy and retro-orbital headaches for the previous 18-24 months. He had no visual disturbance.

Initial investigations revealed hyperprolactinaemia with a level of over 4000 iu/L and a normal IGF1 of 184 iu/L in the presence of a pituitary macroadenoma (8 x 11mm, Fig. 1). He responded well to Cabergoline with a noticeable improvement in all his symptoms in conjunction with fall in the prolactin levels to the reference range and reduction in size of macroadenoma.

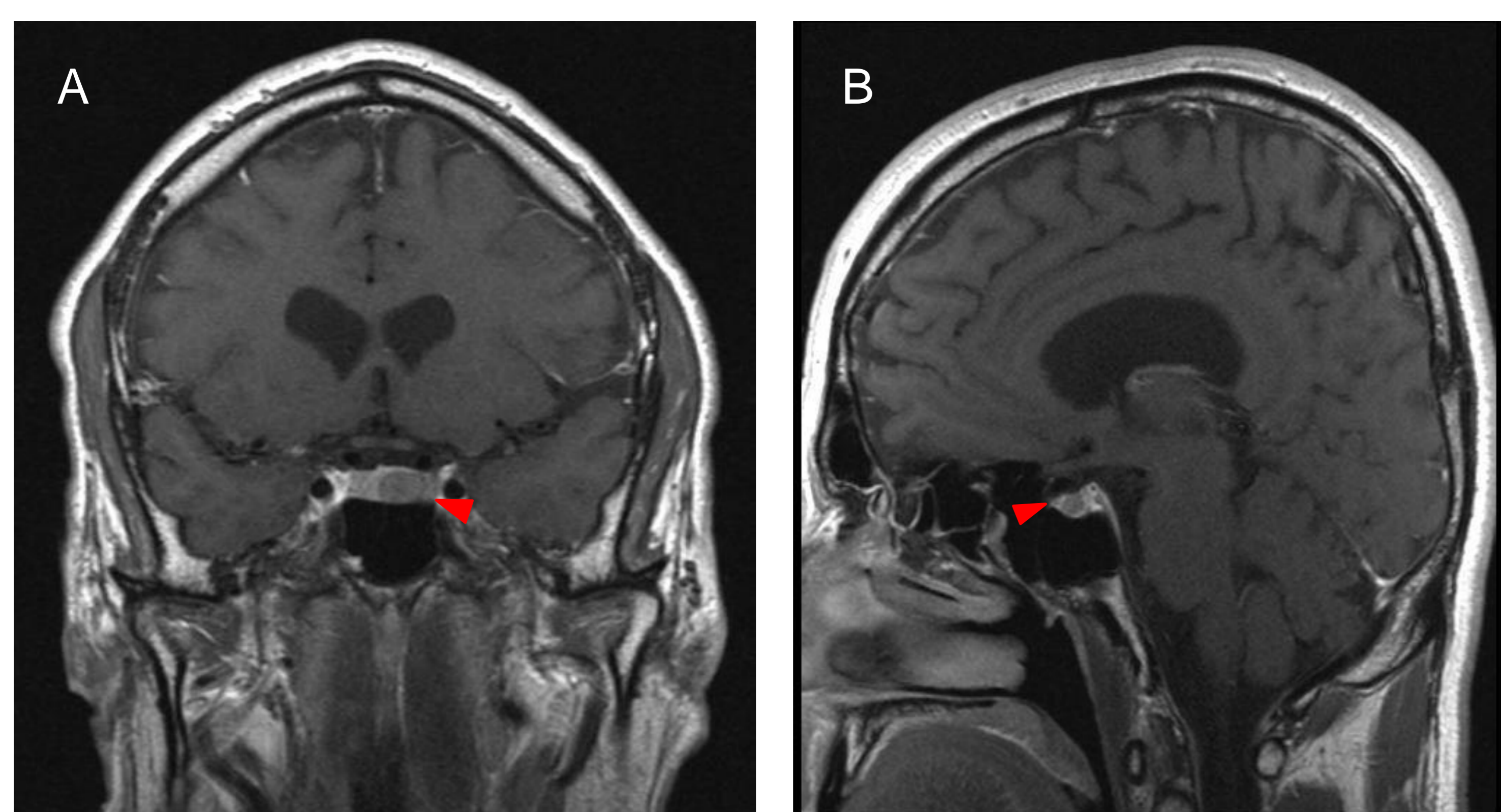


Fig. 1- MRI Pituitary, Coronal (A) and Sagittal (B), demonstrating pituitary macroadenoma (Red arrowheads)

After 3 years (2009), he started describing increasing tiredness, which was associated with an increase in his IGF1 from normal to 2-3x upper reference range. On direct questioning he admitted to have difficulty in getting his rings on and skin thickening.

Prolonged growth hormone-oral glucose tolerance testing showed non-suppression of his growth hormone consistent with Acromegaly. He was initially managed conservatively, but due to persisting symptoms and a consistently raised IGF1, he was treated with pituitary surgery.

Post-surgery(Fig. 2) was associated with a normalisation in Prolactin and IGF1. Histology confirmed co-secretion of Prolactin and GH.

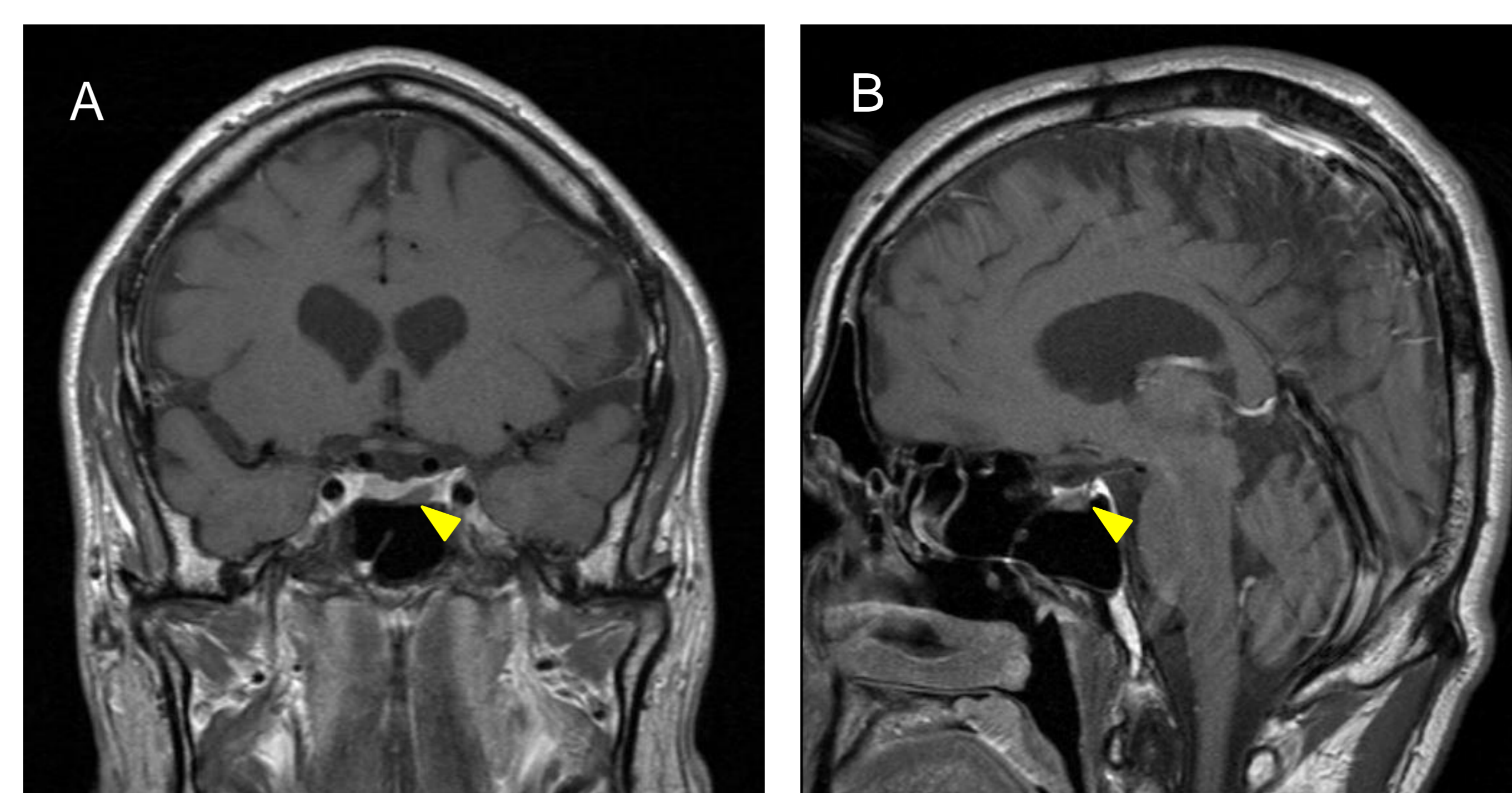


Fig. 2- MRI Pituitary, Coronal (A) and Sagittal (B), demonstrating postsurgical change within the left side of the fossa (Yellow arrowheads)

Discussion

Whilst it is well recognised that co-secretion of prolactin and growth hormone can occur in significant number of patients with macroadenomas, it is usually synchronous.

Asynchronous secretion is less common (<2%) and should be monitored and considered with any symptom changes and/ or with an annual assessment of IGF1/ Prolactin. It is also more unusual to see growth hormone secretion whilst on treatment with dopamine agonist medications due to the frequently found sensitivity of GH in co-secreting prolactinomas.

References

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2. Manuylova E, Calvi LM, Hastings C, et al. Late presentation of acromegaly in medically controlled prolactinoma patients. *Endocrinol Diabetes Metab Case Rep.* 2016;2016:16-0069.