A 65 year old women presented with a two week history of increasing nausea and vomiting despite an empty stomach. Systemic review revealed loss of appetite, increased thirst, and increased frequency of micturition. In addition she developed drowsiness and mild confusion. Seven years previously she had had a right mastectomy for breast carcinoma. Contrast enhanced computed tomography of the brain was performed and selected images are shown in (fig 1), complimented by a T1 weighted magnetic resonance imaging (MRI) scan with gadolinium DTPA enhancement (fig 2).

**QUESTIONS**

(1) Describe the finding on computed tomography and MRI and give a differential diagnosis.

(2) What three simple biochemical tests would you perform, what results would you expect and why?

(3) What special biochemical test would you perform, and what result would you expect and why?

(4) How does the anatomical location succinctly explain the symptoms?