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Images in...

Multiple cerebral hydatid cysts: have the previous operations contributed to their formation?

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DESCRIPTION

A 32-year-old Iraqi Kurdish woman was brought to A&E after developing recurrent generalised tonic–clonic seizures. During the past 4 years, she underwent two craniectomies in Iran for cerebral hydatid cystic disease. Oral albedazole was prescribed for 3 months only, prior to the first surgical operation. The first operation and its discharging notes, including a histopathological report, revealed that she had a solitary hydatid cyst (of *Echinococcus granulosus*) of the right parietal hemispheric area. The neurosurgeon used short courses of glucocorticoids before and after both craniectomies. Her brain MRI examination is shown in figures 1 and 2.

Brain involvement occurs in 1–2% of all *E granulosus* infections. The cysts are usually located supratentorially. Children and young adults are the usual targets. Multiple intracerebral hydatid cysts, whether primary or secondary, are uncommon. In the series of Onal *et al*,[1] 4 of their 45 patients with solitary intracranial hydatid cysts developed recurrence after neurosurgical removal; all of them followed intraoperative rupture of a primary solitary supratentorial hydatid cyst.

Krajewski and Stelmasiak[2] studied 12 patients with cerebral hydatid cystic disease who underwent brain surgery and they followed up them for 5 years. They found that recurrence of multiple cysts occurred in one case and another patient was reoperated on twice for recurrent cysts after an operation in another centre.

It should be noted that despite all the advances in imaging techniques and therapeutic methods, central nervous system hydatidosis remains difficult to cure and patient outcomes are not satisfactory due to the high incidence of recurrence.[3]

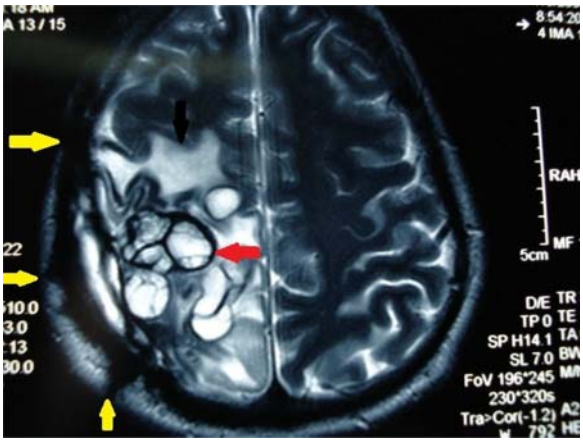

Figure 1 Axial T2-weighted brain MRI of the patient. There are multiple cysts of variable sizes and shapes at the right parieto-occipital lobes. They are surrounded by perilesional oedema (black arrow). Three sites of the previous craniectomies can be seen (yellow arrows). Several cysts demonstrate internal septations, reflecting the presence of 'daughter cysts'. Flow void signals (red arrow) can be observed at the periphery of some cysts indicating calcification. The contents of the cysts have a hyperintense (cerebrospinal fluid-like) signal. The patient was given oral albendazole tablets for 3 months prior to the first operation only; since then, this medication had never been prescribed. Glucocorticoids were administered during the perioperative periods of her two craniectomies.

Learning points

- Multiple intracerebral hydatid cysts are rare.
- The formation of multiple cerebral hydatid cysts after neurosurgical removal of a primary solitary cyst reflects an intraoperative rupture of the latter with secondary development of these hydatid cysts.
- Central nervous system hydatidosis remains difficult to cure and patient outcomes are not satisfactory due to the high incidence of recurrence.

Competing interests None.

Patient consent Obtained.

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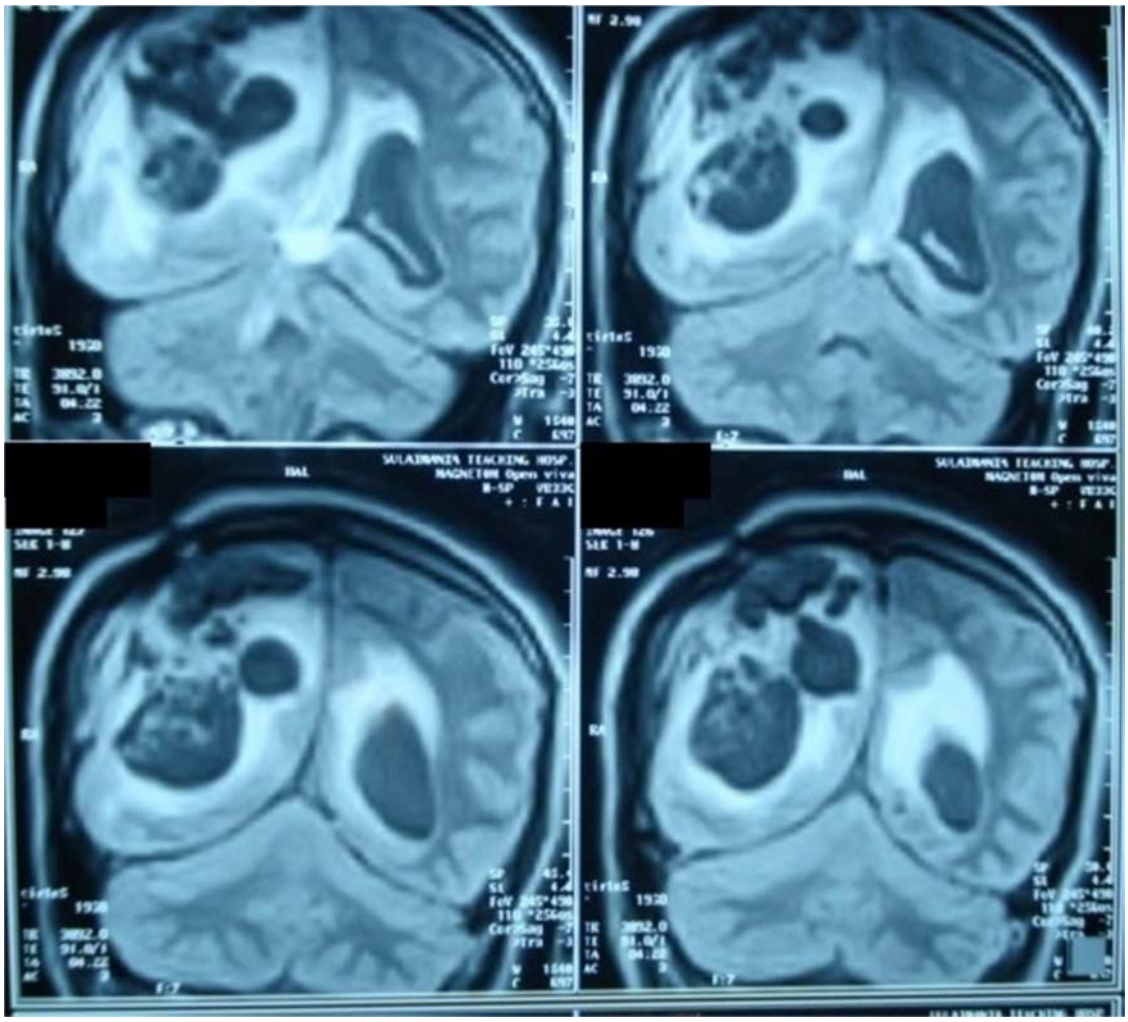

Figure 2 Coronal T2-fluid attenuation inversion recovery (FLAIR) brain MRI film of the patient. There are right-sided parietal cysts (with internal septae of daughter cysts) surrounded by vasogenic oedema of the white matter. The hyperintense signal content of the cysts (on the T2-weighted film) was 'suppressed' on this FLAIR sequence, indicating that these cysts contain a cerebrospinal fluid-like watery fluid. The patient was admitted to the intensive care unit for status epilepticus management; no kind of any neurosurgical intervention was done. She died on day 2.