

skin lesions was carried out. The patient, who had begun to have moderate contractions during the foregoing procedures, was sedated with chlorpromazine.

In the following days, intravenous fluids, supplementary vitamins and antibiotics were administered. Every three days 1,500 units of tetanus antitoxin was given to prevent sensitization. Contractions were satisfactorily controlled by a combination of chlorpromazine and chloral hydrate. On the sixth hospital day the patient was able to eat, and intravenous fluid therapy was stopped. On the twelfth hospital day sedation was tapered, and on the 26th day, when rigidity and contractions had completely ceased, it was discontinued.

On about the fifteenth hospital day the patient began sweating profusely. Slight epistaxis occurred from time to time. A cardiac murmur along the left sternal border was noted. On the twenty-third hospital day an urticarial rash, generalized adenopathy and irritability developed, and the temperature then ranged from 102° to 103°F. for nine days. An electrocardiogram, x-ray films of the chest, the anti-streptolysin titer and results of liver function tests showed no abnormality. No organisms grew on a culture of blood. Relative lymphocytosis with about 25 per cent atypical lymphocytes was noted upon examination of specimens of the blood, but heterophil titers, repeatedly determined, were within normal limits. The symptoms were interpreted as serum sickness, a reaction to the tetanus antitoxin, which was then discontinued on the twenty-second hospital day.

Following this episode, the patient became afebrile and remained so. X-ray films of the spine showed no fractures, and the patient was discharged on the forty-eighth hospital day. The parents were advised that active tetanus immunization should be begun within the following six weeks.

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## Echinococcus Cyst with Intrahepatic Rupture

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ECHINOCOCCUS is an uncommon disease in California. Since many cases are asymptomatic, the present case, in which rupture into the biliary tract resulted in obstructive jaundice, is reported as a reminder of the existence of *Echinococcus granulosus* in California. This disease, as well as other "tropical diseases," is occurring with increasing frequency in subtropical and temperate regions. Since echinococcus is not a notifiable disease in California, data on the incidence are not available. Johnstone<sup>2</sup> expressed belief that the incidence is higher than is generally recognized, and he said that "apparently clinicians are not even suspecting the presence of the parasite." Information on the surgical complications of echinococcus cyst is rather scant in Amer-

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ican textbooks and journals, the best reports having originated in other countries. When rupture of the cysts occurs it may be into the bile ducts, the general peritoneal cavity, the thorax, or the alimentary or urinary tract.<sup>1,3</sup>

### REPORT OF A CASE

The patient was a 27-year-old man of Mexican descent who had been born in Los Angeles and had lived in California all his life. He was first observed in the Tulare County Hospital in December, 1955, with a history of severe, cramping pain in the right upper quadrant of the abdomen, with jaundice and dark urine, for the preceding two weeks. In the three days before entering the hospital the patient had had chills and fever. At examination upon admittance to the medical service, pronounced icterus, tenderness in the right upper quadrant of the abdomen and enlargement of the liver were noted. The laboratory reported an icterus index of 54 units, total bilirubin content of 4.3 mg. per 100 cc. of blood. Hemoglobin content was 12.2 gm. per 100 cc. and leukocytes numbered 11,800 per cu. mm. The result of a serologic test for syphilis was negative. A cephalin cholesterol flocculation test was negative for liver impairment. The content of alkaline phosphatase, 15.8 mg. per 100 cc. of blood. Roentgen studies of the upper gastrointestinal tract showed

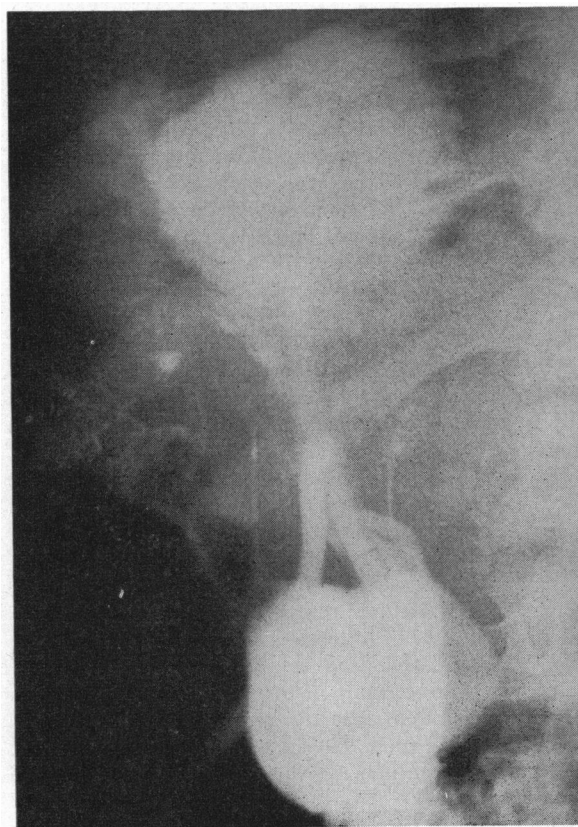


Figure 1.—Cholangiogram 25 days after operation. Note contrast medium in intrahepatic cyst.

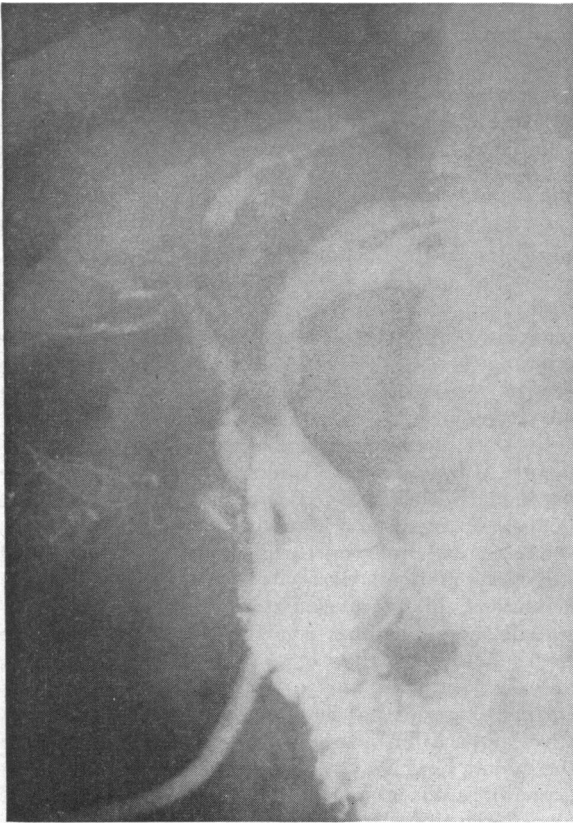


Figure 2.—Cholangiogram, four months after operation, showing return toward normal.

some compression of the lesser curvature of the stomach, evidently from the liver. The temperature ranged between 101°F. and 102°F. for three days and then became normal. The patient was treated with penicillin and was discharged after 12 days with a diagnosis of possible infectious hepatitis. Ten days later he returned because of fever and pain. This time the cephalin flocculation was 2 plus, thymol turbidity 18 units, and bilirubin 3 mg. per 100 cc. Biopsy of a specimen of the liver was reported as showing infectious hepatitis.

Pronounced jaundice continued and the patient had pain and recurrent fever. The temperature rose to 104°F. and the leukocyte content of the blood to 15,400 per cu. mm.

At operation the right lobe of the liver was observed to be practically replaced by a giant cyst. This cyst posteriorly had expanded anterior to the right kidney as a large, thin-walled mass. The common duct was approximately 4 cm. in diameter. It was opened and multiple daughter cysts of various sizes were evacuated from it. Then digital and instrumental exploration of the communicating cystic cavities in the liver was carried out. The main cyst was in the right lobe, but there were several smaller cysts in the left lobe. More than a liter of fluid and daughter cysts of varying sizes were removed and a large T-tube was left in the common duct at the conclusion of the procedure.

*Pathologist's Report:* The specimen was a large quantity of clear hydatid cysts, varying in diameter from 0.3 to 3 cm. Each hydatid presented a thin wall and was filled with clear, colorless fluid. Accompanying the specimens were irregular fragments of soft grayish yellow membrane, representing wall of the major hydatid cyst from the liver.

Microscopically the wall of each hydatid was observed to be composed of a thin hyaline membrane with serrated lining. In some of the sections through the hydatid, a few cross-sections of tapeworm larvae could be seen.

Diagnosis: Hydatid disease of the liver (*Echinococcus granulosus*).

Following operation, the septic condition very quickly subsided. As it was felt that daughter cysts were undoubtedly still present within the liver, the T-tube was irrigated daily and small cysts and cyst membranes continued to be passed. The cyst cavities shrank promptly (Figure 1). The T-tube was removed six months after operation\* when cholangiograms showed an essentially normal biliary tree (Figure 2).

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#### REFERENCES

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### Infectious Mononucleosis Complicated by Landry's Paralysis, Requiring Respirator Care

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THE SYNDROME of infectious mononucleosis was first described by Pfeiffer in 1889. He reported it as a disease of the lymph nodes of children and noted that constitutional signs and symptoms were mild. It was not until 1931 that the first reports of neurologic complications of infectious mononucleosis were made. Johansen<sup>12</sup> reported a case of serous meningitis with no glandular involvement and almost no abnormality in the spinal fluid. Epstein and Dameshek<sup>3</sup> noted a patient with stupor initially, then increased protein and cells in the cerebrospinal fluid and, two days later, splenomegaly and generalized lymphadenopathy. Atypical lymphocytes were observed in the blood. The patient was perfectly well six weeks after the onset of the illness.

Since these reports, there has been an increasing number of reports describing neurologic complications of infectious mononucleosis or glandular fever.

\*When last observed, 13 months after operation, the patient was entirely asymptomatic. Upon physical examination no abnormalities suggesting recurrent or persistent trouble in the biliary tract were noted.

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