Female thoraco-omphalopagus twins, also diagnosed antenatally, referred to Mafraq hospital at 34 weeks of gestation. They were delivered 1 week later on 21 November 1988 by CS, the eighth pregnancy of a 35-year-old mother. They had extensive fusion of the chest walls and crowding of the mediastinal structures (Figure 1). The heart of twin A was inside the chest of twin B. They had to be mechanically ventilated soon after birth, and could be weaned to nasopharyngeal oxygen 1 month later. They shared a common liver, duodenum, and part of the upper jejunum. The two atria were in communication, with resultant massive cross-circulation.

Subcutaneous tissue expansion was started at the age of 50 days, but could not be progressed because twin B aspirated during a feed and sustained permanent brain damage. Unfortunately, twin B's heart was the one in the normal anatomical position, and she therefore had the better prognosis. It was clear that if the other twin was to be saved, a premature attempt would have to be made to separate them; this was hampered by the parents' refusal to sacrifice the brain-damaged twin. The operation was carried out at the age of 3 months by three surgical teams: cardiac, plastic, and pediatric.

The common jejunum was given to Twin A, and a jejuno-jejunostomy established continuity in twin B. The atrial communication was easily closed by the cardiac team. The ectopia cordis of twin A presented a more formidable problem that was addressed by forming an artificial cage of wire attached to the costal cartilages and covered by Silastic and Dacron membranes. The same materials were used to cover the large abdominal defects of both twins. The combined procedure took 11 hours and 45 minutes. Both twins did reasonably well in the early post-operative period, but twin B did not recover from her brain damage and died 1 month later. Twin A, who needed special positioning to warm the projecting heart, died 2 months later.