CONSERVATIVE TREATMENT OF EXOMPHALOS*

BY

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Conservative treatment of exomphalos or omphalocele recommended by us in our textbook and performed by us in suitable cases for many years is not a panacea but has a limited application (Grob, 1957). This is due to the fact that in a high percentage (according to our own experience in more than 40% of cases) primary complications are present, requiring an early operation, or the condition is so serious that any kind of treatment will be hopeless (Fig. 1).

Such a primary complication is rupture of the omphalocele sac, and if the evisceration has occurred before birth the outlook is very poor. We have seen seven cases of this kind and all died.

Another complication needing urgent intervention is intestinal obstruction due to adhesions between the sac and the intestine or by strangulation at the umbilical ring with or without formation of a secondary atresia or by torsion of the sac due to volvulus of the subjacent bowel (Figs. 2 and 3).

In many cases the malformation is associated with other and often multiple serious anomalies such as malrotation or total failure of the foetal intestinal rotation, heart disease, mongolism or the like. In three cases we saw large defects of the skull with congenital ulcers of the galea.

Conservative treatment is therefore only feasible in cases without such primary complications. The principle of the treatment lies in the fact that the

omphalocele will be covered spontaneously by normal skin growth starting from the border of the sac.

To prevent infection the surface of the sac must be made sterile; we use a 2% aqueous solution of mercurochrome which at the same time dries up the remains of the amniotic tissue (i.e. Wharton's jelly). In this manner a dry eschar is formed after some days, which may be reinforced by a 'nobecutane' film sprayed over the sac. This dry eschar may be exposed to open air or protected by an elastic binding. At the same time antibiotics are administered. Under this eschar, which becomes loose after three weeks, granulations form which are covered by an epithelial coat.

By this process the content of the sac is gradually reduced into the peritoneal cavity which enlarges more and more. This slow reduction, ensuing without any symptoms of shock, upward pressure on the diaphragm or pressure on the vena cava, as is often seen in cases treated by operation, is the main advantage of this conservative procedure (Figs. 4-6).

Another advantage is the fact that reduction of the herniated abdominal organs and enlargement of the peritoneal cavity is better guaranteed than by covering the sac with mobilized skin as recommended by Olshausen (1887) in the last century and more recently by Gross (1948). Thus closure of the defect in the abdominal wall, which we usually perform at the beginning of the second year, is greatly facilitated.

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FIG. 1.—Huge exomphalos in an underdeveloped newborn baby with Rhesus constellation and jaundice, who died on the fifth day. Autopsy showed that foetal intestinal rotation failed completely.

FIG. 2a.—Newborn baby with a comparatively small omphalocele and ileus.

FIG. 2b.—Operation revealed a secondary atresia of the terminal ileum with a typical V-shaped defect in the mesentery.

FIG. 3.—Torsion and rupture of the omphalocele sac with adherent intestinal loops; operative repair was not possible.

FIG. 4.—Smaller omphalocele cured by conservative treatment within four weeks.

FIG. 5.—Exomphalos with complete reduction of the herniated bowel by conservative treatment within eight weeks.

FIG. 4

FIG. 5.

FIG. 6a.—Gradual reduction of an immense exomphalos containing parts of the liver. See the comparatively small scar after complete epithelization.

The epithelization of the omphalocele sac requires six to eight weeks, depending on its size. The longer time spent in hospital might be considered

a disadvantage, especially in the United States, where hospital fees are very high, but this consideration should not influence the treatment, if a child's life may be saved.

Our own experience consists of a series of 35 children with exomphalos. Of these, 15 had primary complications, and all except one died. Of 20 cases without primary complications, four were operated on, of whom two died. The remaining 16 cases were treated conservatively; only three of these died, a mortality rate of about 20%. Two of the fatal cases developed volvulus in the course of treatment due to complete failure of intestinal rotation and died on the ninth and sixteenth days respectively. One child developed bilateral pneumonia and died on the tenth day; autopsy revealed no signs of peritonitis. Six of the 16 conservatively treated children had smaller omphalocele sacs with a diameter of 5-6 cm. (Fig. 4), the remaining 10 cases having larger ones; in eight of them the sac contained parts of the liver or spleen (Fig. 6). In none of these 16 conservatively treated cases did rupture of the omphalocele sac or infection occur.

The mortality rate, 45-50%, remains very high. Nevertheless, it seems to us that conservative treatment has helped to improve prognosis, as occasionally it enables recovery in cases in which operative treatment is hazardous or even impossible.

REFERENCES

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FIG. 6b.—Result after operative closure of the defect in the abdominal wall at the age of 12 months.