

COMPLEX GASTROSCHISIS: CLINICAL SPECTRUM AND NEONATAL OUTCOMES AT A REFERRAL CENTER

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Aim of the Study: Evaluate the outcomes of neonates with complex gastroschisis (GC) and correlate outcomes with each type of complication.

Methods: Retrospective review. Patients born with complex gastroschisis or who developed complications during their neonatal admission in the last 8 years. Primary outcomes: time to discontinue parenteral nutrition (offPN), length of stay (LOS) and survival.

Main Results: We treated **62** patients with complex GC, 58 with abdominal complications and 4 with respiratory failure/ECMO. Abdominal complications were: intestinal necrosis at birth (n=9), intestinal atresia (n=16), medical NEC (n=15), surgical NEC (n=1), in-utero volvulus (n=1), vanishing gastroschisis (n=2), severe intestinal dysmotility (n=1), delayed abdominal closure (n=3), abdominal compartment syndrome (n=2) and hiatal hernia/severe GERD (n=11). The offPN time and LOS of the whole group were 92 (35-255) and 119 (42-282) days, respectively. These were significantly longer than the times of a demographically equivalent contemporaneous series of 125 patients with non-complicated gastroschisis (offPN 32 [12-105] days [$p<0.001$]; LOS 41 [18-150] days [$p<0.001$]). Patients with intestinal necrosis at birth or with intestinal atresia had the longest offPN and LOS times (133 [38-255] / 157 [43-282] and 114 [36-222] / 143 [42-262] days, respectively), followed by patients with complications of the abdominal wall closure (n=5) (69 [43-93] / 89 [58-110] days), patients with hiatal hernias/severe GERD who required fundoplication (63 [35-84] / 89 [57-123] days) and patients who developed medical NEC (67 [35-103] / 76 [50-113] days). Short-bowel syndrome/PN-dependence occurred in 6/58 (10%) patients with abdominal complications (2 vanishing gastroschisis, 1 in-utero volvulus, 2 intestinal atresias and 1 bowel necrosis at birth). There were no neonatal mortalities.

Conclusion: GC can be complicated by a wide variety of prenatal and postnatal events. The most severe outcomes occur in patients with vanishing GC, bowel necrosis at birth or intestinal atresias. Complications do not affect neonatal survival.