INTRODUCTION

Congenital abdominal wall defects primarily to gastroschisis (characterized by an intact umbilical cord and evisceration of the bowel through a defect in the abdominal wall, generally to the right of the cord, with no membrane covering) and omphalocele ***(Weber et al, 2002)***

Anterior abdominal wall serves several functions; it protects the abdominal viscera. The muscles of the anterior abdominal wall also assist in respiration, pulling down on the ribs during forced expiration and coughing. These muscles help with defecation, micturation, child birth, fixation of the spine and assist in the rotation of the body ***(Rohrich et al., 2000)***.

There are different causes of abdominal wall defects either congenital or acquired. The congenital causes can be divided into either herniation of abdominal contents at the umbilicus as Omphalocele (Exomphalos) with an incidence of 1: 6,000 or full thickness abdominal defects situated always to the right of umbilicus like Gastroschisis with an incidence of 1: 20,000 - 30,000.***(lander, 2007).***

Deficiency of the abdominal musculature which may be associated with urinary tract dilatation and cryptorichidism as in Brune-Belly syndrome having an incidence of 1: 50,000. ***(lander, 2007).***

The acquired defects of the abdominal wall are caused primarily by trauma, infection, ablative resection of primary or recurrent tumors, complications of surgical procedures such as incisional hernia, radiation damage, burns and abdominoplasty. These defects can be superficial, involving only some layers of the soft tissue of the anterior abdominal wall, or full thickness, extending into the abdominal cavity ***(Cohen, 2006*).**

The main goals of reconstruction of abdominal wall defects is the restoration of the structural and functional continuity of the musculofascial system with the preservation of the integrity of the abdominal wall and minimizing the complications such as infection, dehiscence and abdominal compartment syndrome as well as the achievement of stable local wound coverage ***(Karp, 2006)***.

The preoperative evaluation should include complete history, physical and general medical evaluation, basic laboratory work and other diagnostic and radiological studies. The evaluation of the extent of the defect and the associated pathology as presence of local inflammation or bowel adhesion is so important in determining the timing and the option used in reconstruction that is balanced with patient's general health, tissue requirements and wound bed ***(Kilbride et al., 2006)***.

The ideal reconstruction should encompass four requirements; prevent visceral eventration, incorporate the abdominal wall, provide a tension-less repair, and dynamic muscle support ***(Kilbride et al., 2006).***

Reconstructive options for the abdominal wall repair are vast starting from skin and fascial grafting for covering extensive wounds after being healthy and granulating well. The staged tissue expansion through placement of the tissue expansion devices in between the different layers of the abdominal wall have role in the staged abdominal wall reconstruction ***(Williams et al, 1998).***

The Vacuum-assisted closure is considered a safe and effective alternative in treating the complicated cases ***(Kilbride et al., 2006)***

All these reconstructive techniques and procedures will be described helping for better outcome, decreasing the hazards of infection, hospital stay.(***Grevious, 2006)***.