Introduction

Anterior abdominal wall serves several functions, it protects the abdominal viscera, the muscles of the anterior abdominal wall also assist in 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[(1)].

Acute wound failure (wound dehiscence or burst abdomen) refers to postoperative separation of the abdominal musculoaponeurotic layers. It is among the most dreaded complications faced by surgeons and of greatest concern because of the risk of evisceration, the need for immediate intervention, and the possibility of repeat dehiscence, surgical wound infection, and incisional hernia formation[(2)].

Wound dehiscence (burst abdomen) is a very serious postoperative complication associated with high morbidity and mortality. It has a significant impact on health and cost. The incidence of wound dehiscence (burst abdomen) varies from center to another worldwide. While it is recorded to be 1-3% in most centers, some centers in India recorded incidence of burst abdomen as high as 10-30% [(3)].

The variables that were significantly associated with wound dehiscence included hypoalbuminemia, anemia, malnutrition, chornic lung disease, and emergency procedure. The additional postoperative factors that were found to be significant were vomiting, prolonged intestinal paralysis, repeated urinary retention, and increased coughing. Obesity, chronic heart disease, diabetes mellitus, alcoholism, preoperative intestinal obstruction, jaundice, systemic and local

infection, use of steroids. Type of incision, operating time, and type of wound closure were nonsignificant variables[(4)].

Restoration of the abdominal wall integrity is the paramount goal of treatment for this condition and can be achieved only if the underlying problem causing the dehiscence is addressed in parallel with the establishment of a supportive environment for wound healing. The abdominal wall integrity can be restored by secondary healing, surgical closure of all or some of the abdominal wall layers, placement of a split-thickness skin graft (STSG) over the granulated bowel, and utilization of local or regional tissue flaps. When the fascia is involved, its closure can be achieved by delayed primary closure, component separation, prosthetic mesh placement, and/ or a local tissue flap. Frequently, definitive fascial and/or cutaneous reconstructions cannot be performed in an immediate setting due to the wound condition or the general condition of the patient. In these cases the closure of the wound is done in a delayed setting. This delay provides an opportunity for debridement of necrotic tissue if present, control of local infection, resolution of bowel edema, and treatment of any associated intra-abdominal pathologic conditions[(5)].

Incisional hernia is a common complication after resuture of a burst abdomen. No significant difference in the incidence of incisional hernia was reported. When continuous and interrupted techniques were compared. Retention sutures do not reduce the incidence of incisional hernias. There is still a need for refinements of the technique of closure of a burst abdomen[(6)].