SUMMARY & CONCLUSION

Burst abdomen is considered one of the most challenging obstacles that facing general and plastic surgeons.

Studying the layers of the abdominal wall, and knowing the anatomy of the anterior abdominal wall, its arterial and nerve supply is the corner stone in management of that surgical problem, and in finding the best way how to close that defect.

Burst abdomen has a several etiological and predisposing factors, so if they are kept in mind, the occurrence of such that problem can be avoided. Infection, suturing under tension, bad general condition, and risky major operations…etc, all are factors that contributing burst abdomen.

Preoperative evaluation of the patient, the defect, and history of the case, should be kept in mind to help in reaching the most appropriate way in reconstructing burst abdomen.

Methods by which burst abdomen is closed are varying a lot from conservative method just by repeated dressings and keeping it clean, re-suturing the wound, or making retention sutures, all if the wound can be closed primarily.

If the defect can not be closed primarily the management can be planned in a way that close the abdomen safely, the VAC which drain the fluids that oozes from the wound under a vacuum method that helps in closing the wound, or using a technique of component separation in which separate the layers of the abdomen can be closed separately.

Another way by which we can close the defect is using skin and fascial tissue either by grafting in the form of split or full thickness graft, or by flaps that may be local, distal, or free flaps. Either grafts or flaps, and partial or full thickness, and the type of the flap either fascio-cutaneous, or myo-cutaneous. It depends on many factors that were discussed through out our review, and declare it in many algorithms we included it in our review.

If the defect is large, the local tissue can be used around the defect in its closure, that instead of using other tissue in form of grafts or flaps. That is can be achieved by tissue expansion by using balloon expansion of tissues depending on what we call the stress creep theory of tissues. Along a time the tissues are expanded near the defect using an expandable silicon balloon with a saline injection over period of time, that allows the use of the expanded tissue to cover a defect.

After the merge of the use of prosthetic materials in medical stuff, the use of prosthetic meshes resembles a new technique in covering the defects, or as a supportive material for the tissues that used in covering the abdominal wall defect by its inflammatory reaction, and its fibrous reaction that results by its application.

A lot of meshes are used between them the absorbable, non-absorbable, and a composite prosthesis, as Marlex, Prolene, Vicryl, Vipro, and Ultrapro.

As all these meshes resembles a good supportive material for the abdominal wall, but it still with some drawbacks that leading surgeons to try other type of synthetics, from that point there was the new bio-prosthetics, which are in nature depend on biological materials, which

decrease the side effects of prosthetics, as adhesions and infection that may result with the previous ones.

Acellular human dermis (AlloDerm), and porcine dermal collagen (permacol), those are between the meshes that used these days.

Another technique is the use of Autogenous, pedicled, demucosalized small intestinal sheet. That harvested from intestinal loops, and undergone demucosalization, and used for coverage of abdominal wall defects.

It is concluded that although the objective of reconstructing an abdominal wall is centered on restoration of abdominal wall continuity, the formulated procedure must include a comprehensive plan of preoperative and postoperative care of the patient aiming towards the restoration of the abdominal structure integrity. Reconstruction of the anterior abdominal wall defects may represent an important issue that has different causes, and at the same time, has different modalities in management with certain preferences to some methods of management by certain surgeons depending on the experience and the disease condition.