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Coverage of Soft Tissue Defects in the Management of Infected Vascular Grafts

Essay

Submitted for the partial fulfillment of the M.Sc degree in general surgery

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Abstract

Infection in vascular grafts is considered to be a disastrous complication of vascular surgery. Not only the limb of the patient may be in danger as a consequence of this complication, but also his life. Although the incidence of vascular graft infection in literature is not high (1% to 6 %) yet, its complications are devastating. Infection of the native vessels results in weakening of the vessel wall and disruption of the anastomosis. The inflammatory process results in the precipitation of aneurysmal dilatation, ue o verwhelming haemorrhage and fistula formation. ay ccur eath sepsis or haemorrhage. Bacterial infection accounts for the majority of vascular frequently fungi (Candida albicans, aspergillus), graft infection. Less mycoplasma and mycobacterium have also been identified. In recent years, there has been a gradual change in infection pattern. In earlier studies, Staphylococcus aureus accounted for 50% of all vascular graft infections. More recently this incidence as iminished and Staphylococcus epidermidis now accounts for 60% of all graft infections Infections in arterial grafts were classified originally by Szilagyi et al.in 1972 into three grades: grade I, infection extending only to the dermal level; grade II, infection extending into subcutaneous tissue not surrounding the graft; and grade III, infection surrounding and in contact ith he raft. he reatment f Szilagyi grade I and II infections involving only skin or subcutaneous tissue can be managed easily with local wound care and delayed closure or skin grafting.

On reviewing the literature it was noted that vascular graft infection is more common in prosthetic grafts as compared with autogenous grafts, 1.9% versus 0.4% in one study. Also the inguinal region was the most common site of vascular graft infection compared with other regions, 3.0% versus 0.7%, as it is a relatively (dirty) area. It's close proximity to the perineum and the redundant folds of skin considerably increase the colonisation of the area with skin pathogens. Prosthetic grafts are more prone to infection as they act as any foreign body and harbour organisms within the interstices of the graft. The type of the prosthetic graft also affects the incidence of infection as for example, the bacterial adherence to dacron grafts is 10-100 times greater than PTFE grafts.

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Index

	Chapter	Page
•	Introduction & Aim of Work	1
•	Review of Literature	
	- Anatomy	4
	 Muscle Flaps 	21
	 Arterial Substitutes 	51
	 Aetiology of Vascular Exposure 	59
	 Infection in Vascular Grafts 	77
	 Diagnosis of Vascular Graft Infection 	88
	 Management of Vascular Graft Infection 	. 93
•	Discussion & Summary	106
•	Presentation of Cases	112
•	List of References	123
•	Arabic Summary	135

List of Tables

Γable	Description	Page
1:	Incidence of prosthetic vascular graft infections	78
2:	Risk factors predisposing to graft infection	82
3:	Bacteriology of prosthetic vascular grafts infections: incidence	84
	from collected cases	ÿ1.
4:	Incidence of wound infection by type of implant	85
5:	Incidence of wound infection (grade III) with prosthetic implants by site of insertion	86
6:	Sources of infection in relation to site of placement	87
7:	Types of pathogenic organisms in relation to site of placement	88