Triclosan Impregnated Suture In Management Of Acute Surgical Wounds: A Review Of Current Evidences

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INTRODUCTION:

Surgical site infection (SSI) is one of the most common post-operative complications. It presents a heavy burden to the healthcare system. In clinical medicine, triclosan impregnated sutures (TISs) are used in an effort to combat SSI.[1]

DEFINITION OF SSI:

Defintion: Micro-organism growth in a surgical incision site either as superficial (skin and subcutaneous tissue) or deep (musculo-fascia layer or in an organ or cavity). [2]

METHODS:

A search over MEDLINE, COCHCRANE library for studies for past 10years (2009-2018) for all interventional studies in English.

RCT 1

A double blinded pilot compared TIS with NAS (Non-Antibiotic Suture) in a Dutch centre (n=26). The results showed that the TIS arm had a much higher wound dehiscence (16 cases vs 7 cases). [3]

RCT 2

A randomised controlled trial (RCT) to compare TIS with NAS in SSI prevention after breast cancer surgery. Disappointingly, there was no significant reduction of SSI. [4]

RCT 3

A double blinded RCT at a larger scale (n=856) on SSI prevention in abdominal surgery. It demonstrated favourable result to TIS (6.4% and 11.3%) in laparotomy wounds. However, the result was still not statistically significant. [5]

Meta-analysis 1

13 RCTs were included in this study with a total of 3568 subjects. The results showed a statistically significant reduction of SSI in the TCS arm.

Meta-analysis 2

This meta-analysis of a total of 15 RCTs concluded a statistically significant reduction of SSI rate in the TIS arm compared with the NAS arm.[1]

Meta-analysis 3

A total of 30 studies were included in this study, it concluded that the TIS group had lower risks of SSI compared with the NAS group [6].

DISCUSSIONS:

Subacute/chronic triclosan toxicity has been evaluated in animal studies via oral and dermal routes. authors concluded no difference in terms of local and generalised reactions between TIS and NAS groups

CONCLUSION:

Overall, RCTs and meta-analyses have verified the effectiveness of TIS in the prevention of SSI.

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