REVIEW OF LITERATURE
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Several authors have sought to compare and contrast the use of different suture materials for closure of the abdominal wounds.

Bandi and Ali from Indore (1965) evaluated the various suture materials as regards their efficacy as suture for closing the abdomen under tropical conditions. Sixty albino rats were subjected to laparotomy and the abdomen was closed in a single layer in every case. Chronic catgut, silk, dacron and vicryl, were used as suture materials respectively in four groups of 15 rats each. Wound necrosis was observed in 40% of cases where vicryl was used (as compared to 50% of cases where silk or chronic catgut was used) while granuloma formation was seen in 20% of cases (50% and 13.3% in cases of chronic catgut and silk respectively) and fibrosis in 6.7% (66.7% and 26.7%) and cases of chronic catgut and silk respectively).

Results with dacron closely resembled that of vicryl. Both acute and chronic cellular reactions as evidenced by appearance of polymorphs and mononuclear cells respectively were most pronounced in cases of non-synthetic sutures. These facts are corroborative to what other have previously observed (Wallace et al 1970, Perreton 1972, Michel and col 1973, Khibehandani et al 1974, Narow et al 1974, Case et al 1976).
Earlier reaction seen till day 7 was more or less identical for chromic catgut, silk, dacron and vicryl and thereafter varied widely, not to be seen in vicryl and dacron incisions on day 15. The chronic inflammatory reaction of even higher grades were seen persisting in catgut and silk wounds till maximum observation period of 21 days in the study. This observation was common with Bargman et al 1971, Helort et al 1971, Frenza and Schmitt 1971, Corn et al 1974, and Gautam et al 1979).

The absorption period of polyglactin is 100-120 days in tissues. Its initial breaking strength is greater than that of catgut. In tissues its breaking point is a straight line to zero strength after 21 days. Absorption by body tissues is well advanced by 2 months and complete by 4 months. After the initial reaction subsides, the suture is surrounded by a thin rim of fibrous tissue. Between filaments are histocytes, fibroblasts and a few lymphocytes. Later, giant cells predominate. Without the fibrous reaction changing, the fibres decrease in number, till only a few fibres are visible by polarised light. It is absorbed by hydrolysis.

In a study by Hui, et al, incidence of complications in catgut suture was 2-3 times that of polyglactin. With polyglactin, because of greater
tensile strength, smaller needles and thinner sutures may be used. This produces minimal trauma and leaves behind less foreign body in wound with minimal tissue reaction. Aldich et al have seen a lesser rate of infection in wounds closed by poliglecin sutures than by catgut.

Patients were placed into 3 groups according to whether (i. the condition were optimal (112), ii. The wound was contaminated (20 patients), iii. The patients was undernourished (15 patients).

Half of the members of each group had their wounds sutured with catgut and other half with poliglecin.

Both the severity and duration of postoperative pain was seen to be less in case of poliglecin sutured wounds in all groups. However, the disparity was most pronounced in case of the wounds that were under optimal conditions.

Poliglecin versus catgut complication ratio came to 1:2.57.

The sutured wounds were examined on days 3, 5, 7, 9, 11 and 15 and were graded as follows:

A) From grade 0 to grade 3 with respect to incidence and degree of post operative inflammation.
In wounds sutured with poliglecatin, most cases tend towards grade 0 inflammation, more so in undernourished and in ideal patients and to a lesser extent in contaminated wounds.

3) In grade 1 and 2 according to whether the infection is limited to skin or has penetrated to deeper levels and whether wounds dehisence is superficial or deep.

Infections associated with polyclactin were, when present, limited to superficial levels in most instances.

The incidence of wound dehiscence was at least 4 times more frequent when chromic catgut was used than in vicryl sutured wounds.

C) Suture extension was not seen in a single case where vicryl was used in 74 cases whereas when chromic catgut was used, suture was extended in 6 of the 74 cases.

Similarly, wound complications (i.e. inflammation, infection, dehiscence and suture extension) were seen in about half as many patients when vicryl was used than when chronic catgut was employed.

The above studies generally point to the superiority of vicryl as a suture on all fronts when compared to chronic catgut.