Comparative analysis of nonabsorbable 10-0 nylon sutures with absorbable 10-0 Vicryl sutures in pediatric cataract surgery

The comparison between 10-0 nylon and Vicryl suture is a very relevant topic in present-day pediatric cataract surgery. The authors of "Comparative analysis of nonabsorbable 10–0 nylon sutures with absorbable 10-0 Vicryl sutures in pediatric cataract surgery" have produced good data to objectively analyze the same.[1] Due to low scleral rigidity in children, the surgical incision has to be sutured in all children up to 7 years of age and older if required. 10-0 nylon has been the preferred suture material and is being used in the majority of children undergoing cataract surgery.[2] Being nonabsorbable suture, 10-0 nylon gets loose over a period of time but does not fall off.

Loose sutures lead to accumulation of debris and mucous at suture site, eventually leading to either infiltrate or vascularization at the suture site and localized corneal opacity.[3] There is a risk of infection and endophthalmitis through the suture track. Another practical aspect is that most children with pediatric cataract belong to lower socioeconomic strata where chances of compliance with regular follow-up are less. Many of them generally report back only when the loose 10-0 nylon sutures are causing redness and irritation in the eyes. Added to that is the risk and cost of general anesthesia for suture removal. There are incidences of postsuture removal hypopyon and endophthalmitis which all of us have faced once in a while. Luckily, they tend to respond to topical medication only. Earlier publication has also shown that non-absorbable suture like 10-0 Mersilene due to its higher tensile strength has higher postoperative astigmatism when compared to an absorbable suture like Vicryl in pediatric cataract surgery. However, the difference becomes lesser over a period of 6 months.

The 10-0 Vicryl, on the other hand, is a good alternative to 10-0 nylon in pediatric cataract surgery. Previous publications on this suture material have been for adult small incision cataract surgery. Although it is of lesser tensile strength, still it is good enough to hold a 2.8 mm incision with one suture. One of the risks is premature opening of the suture due to loose knot of 10-0 Vicryl that can easily be negated by alternate clockwise and counterclockwise knots. The nylon sutures become loose in 3–4-month time, whereas the Vicryl suture gets completely absorbed by then. Previous publications show that almost 70% of 10-0 Vicryl sutures get absorbed by 6 weeks and 100% by 4 months.[4] Although the tensile strength is less, compared to 10-0 nylon,[5] it's good enough to hold the wound without any complications. One of the disadvantages of 10-0 Vicryl suture is the cost, which is higher than nylon and that it cannot be reused after sterilization because the suture becomes brittle and breaks off very easily. However, considering the cost and risk of subjecting the child to another general anesthesia, this point would not go against 10-0 Vicryl sutures. Furthermore, the risk of infections gets minimized as suture track closes fast with absorption of the suture.

To conclude, 10-0 Vicryl has been a good alternative to nylon sutures due to the reasons discussed above, and no we have actual data to prove that as well.

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