

CHANGE OF LOCAL ANAESTHESIA PROCEDURE TO AVOID SUTURE BREAKAGE

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What was done

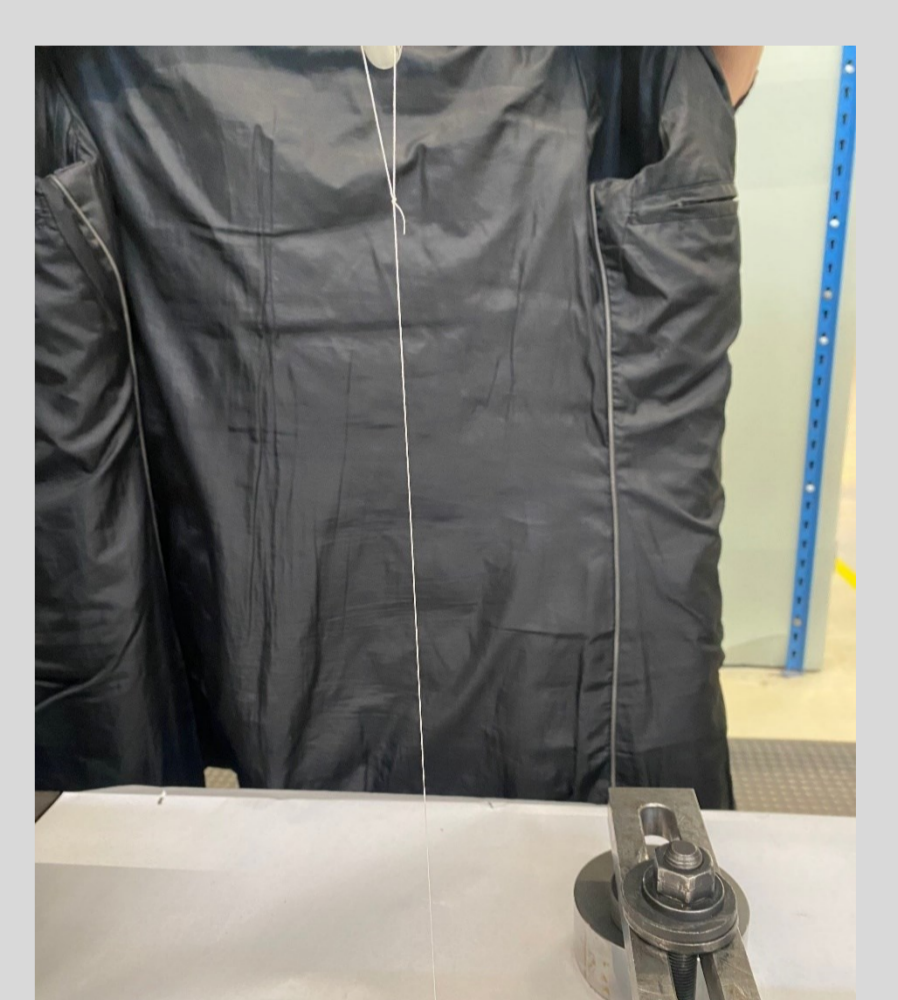
- An in-vitro experiment to compare the tensile strength of fast absorbable suture material when impregnated with various agents for local anesthesia was performed.

Why was it done

- A wide range of women sustain a perineal tear after delivery, which needs to get repaired. If the suture material fails to last as expected, women might experience wound rupture and the need of early re-suturing.
- After clinical observations of early breakage of suture material sprayed by Xylocaine spray, compared with no breakage of the suture material impregnated by Xylocaine gel applied before the repair of a perineal tear, Clinical Pharmacy was contacted by the Obstetric Department with the inquiry, whether there is a **pharmaceutical interaction between local anaesthesia and suture material**.
- An observation period of 9 months revealed that 79% of the women who had to go through early secondary wound repair due to suture failure, had received local anesthesia in the form of Xylocaine spray.

How was it done

- An in-vitro experiment was performed in collaboration between midwives, pharmacists and a technological Institute, in which we impregnated 120 suture materials divided in four groups (Xylocaine Spray, Xylocaine gel, Isotonic Sodium Chloride and Ethanol) and then **measured the tensile strength** of the impregnated suture material after storing it 72 hours at 37 degrees.



What has been achieved

- In the experiment we saw that **ethanol and Xylocaine spray weakened the tensile strength of fast absorbable sutures**. Use of Xylocaine spray, which contains ethanol for local anesthesia might lead to **early breakdown of the suture material** and wound rupture.
- After the experiment most obstetric departments in Denmark changed their procedure for local analgesia/anaesthesia during perineal repair from using Xylocaine Spray to use Xylocaine gel instead.

What next

- Observing the suture breakage percentage in a period of 9 months after application of Xylocaine gel.
- Publishing the results at a broader level.

