



Anti Xa activity after LMWH thromboprophylaxis in patients undergoing cesarean section and vaginal hysterectomy

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BACKGROUND

LMWH is used increasingly for prophylaxis during surgical procedures, however dose varies between centers. The aim was to compare anti Xa-levels after prophylactic doses of LMWH after cesarean section (CS) and vaginal hysterectomy (VH).

MATERIAL AND METHODS

Anti Xa activity was measured in 50 women after vaginal hysterectomy for benign diseases and 50 women who underwent cesarean section. Venous blood was taken 4 and 24 hours after the application of LMWH (enoxaparine 20 and 40 mg) in prophylactic doses. The sample was immediately transferred to the laboratory and centrifuged. The platelet poor plasma was stored until assay. Anti Xa was measured using an automated chromogenic substrate. (Instrumentation Laboratory, Italy)

RESULTS

In 20 mg of enoxaparine four hours peak level were >0.1 IU/ml in 58% of patients after CS and 69% after vaginal hysterectomy. But none in the group of CS and only 8% after VH had anti Xa level above 0.3 IU/ml. After 24 hours was anti Xa detectable in only 8% cases after VH, whereas in 40 mg of enoxaparine was anti Xa present in 30% of cases. No anti Xa activity was present in CS after 24 hours even in 40 mg of enoxaparine.

CONCLUSION

The results suggest that the pharmacokinetics of LMWH is affected by the pregnancy. Increased dose would be more effective in the prevention of thrombosis after cesarean section.

| | | n | Anti Xa plasma level | | | | | | | | |
|----------------------|-----|----|----------------------|--------|----------|----------|----------|----------------|--------|------|--|
| | | | After 4 hours | | | | | After 24 hours | | | |
| | | | 0 | >0-0.1 | >0.1-0.2 | >0.2-0.3 | >0.3-0.4 | 0 | >0-0.1 | >0.1 | |
| Sectio Caesarea | 0.2 | 45 | 7 | 12 | 20 | 6 | 0 | 23 | 22 | 0 | |
| | 0.4 | 5 | 0 | 1 | 0 | 1 | 3 | 1 | 4 | 0 | |
| Vaginal hysterectomy | 0.2 | 39 | 8 | 4 | 15 | 9 | 3 | 16 | 20 | 3 | |
| | 0.4 | 10 | 1 | 2 | 4 | 1 | 2 | 4 | 3 | 3 | |

