COMPARISON OF HEPARIN SUBCUTANEOUS INJECTION IN THIGH, ARM & ABDOMEN

Khadijeh Zeraatkari MS, Mehri Karimi MS, Mohammad K Shahrzad MD, Tahereh Changiz PhD MD

Department of Medical Surgical Nursing, Isfahan University of Medical Sciences, Isfahan, Iran, 8174673461

INTRODUCTION: Bruising and indurations associated with subcutaneous heparin injection often results in sustained tenderness and severe ecchymosis at the injection site (1). Previous study evaluated the effect of syringe size on bruising following subcutaneous heparin injection (2). This study was designed to compare the effects of different areas of subcutaneous heparin injection on mean and maximum areas of bruises and pain intensity.

METHODS: After approval of the proposal by ethics committee and obtaining the informed consent this semi experimental complete crossover study designed and was performed on 58 patients who received subcutaneous heparin injection (5000 Iu subcutaneous) in randomly ordered sites (abdomen, arm, thigh) with a 12 hours interval. Other variables such as needle size and technique of injection were similar. The pain intensity was estimated immediately after injection using visual analog scale (VAS). Bruise size was observed and measured 24, 48 and 72 hours after injection. Statistical analysis was performed using ANOVA.

RESULTS: Data (mean $\pm$ SD) are shown in table:

	Mean areas of bruises (mm ²)	Maximum areas of bruises (mm ²)	Pain intensity (VAS: 1-10)
Abdomen	133.2 $\pm$ 265.2	152.9 $\pm$ 285.7	4.1 $\pm$ 2.4 *?
Arm	144.0 $\pm$ 255.4	159.3 $\pm$ 269.2	5.8 $\pm$ 2.5
Thigh	158.2 $\pm$ 238.8	172.1 $\pm$ 255.1	5.6 $\pm$ 2.6

* P = 0.000 vs. Arm

? P = 0.001 vs. Thigh

Mean and maximum areas of bruises were not significantly different at three sites. Pain intensity was significantly decreased from arm to thigh and then to abdomen.

DISCUSSION: According to the results of this study, abdomen area may be considered as the preferred site for subcutaneous heparin injection because of less pain intensity. This may be attributed to the scarce distribution of pain receptors in abdomen in compare to thigh and arm or may be due to psychological factors.

REFERENCES:

- 1) *AJN*. 80: 1115-1117
- 2) *Am J Crit Care*. 5: 271-276