

Characteristics of Severe Nerve Injuries Related to Blood Donation

Jan Jorgensen¹ & Betina S. Sorensen¹

Department of Clinical Immunology, Aarhus University Hospital Skejby, Aarhus, Denmark¹

Materials:

Retrospective data on severe nerve injuries related to blood donation which occurred in 2005-2006 in Denmark were studied.

The cases were characterised according to *Standard for Collecting and Presentation of Data on Complications Related to Blood Donation (version Madrid 2007)*.

Results:

Among 731.059 donations we identified 78 severe cases corresponding to 11/100.000 donations. The 78 cases were divided into 4 groups. Details of each group are given in table 1-3.

Data shows that:

- In cases with complicated needle insertion the nerve injury was more often caused by the needle than by a haematoma ($p = 0,02$)
- Constant pain occurred more often when the nerve was injured by a haematoma ($p = 0,03$)
- Irradiating pain occurred only when the nerve was injured by the needle (table 2).
- Pain when the arm was moved occurred in the initial phase only when the nerve was injured by a haematoma (table 2)
- Diminished function was only seen when the nerve was injured by a haematoma (table 2)

Table 1 Cases grouped according to the Standard

Group	1	2	3	4
Nerve injured by	Needle		Haematoma	
Category code (Standard)	121		122	
Symptoms > 1 year	All	None	All	None
Medical treatment	Some	All	Some	All
Total number (numbers/100.000 donations)	12 (2)	17 (2)	16 (2)	33 (5)
Needle insertion complicated*	42 %	53 %	19 %	24 %

* Slow blood flow, bleeding stopped, needle manipulated, or punctured several times in the same arm

Table 2 Occurrence of symptoms

Symptoms	Initially				After 1 year	
	1	2	3	4	1	3
Pain irradiating	58 %	41 %	0	0	0 %	0
Paraesthesiae	8 %	12 %	6 %	3 %	8 %	6 %
Pain constant	17 %	18 %	19 %	52 %	8 %	6 %
Pain when arm moved	0	0	38 %	12 %	42 %	63 %
Pain and paraesthesiae	17 %	29 %	38 %	33 %	42 %	19 %
Diminished function of arm or hand					0	6 %

Table 3 Treatment

Treatment	1	2	3	4
Treated (%)	75	100	69	100
Pain killers (NSAID, paracetamol) (%)	11	0	0	3
Ultrasound (%)	0	59	17	42
Physiotherapy/massage (%)	22	6	42	21
Gel (Felden® (piroxicam), Hirudoid® (heparinoid)) (%)	0	6	0	9
Combination of all (%)	67	29	42	24

Conclusion:

These new data has to be confirmed in another region before major initiatives should be taken in order to reduce the occurrence and the severity of nerve injuries. However, a stricter adherence to existing SOP on an international state of the art level concerning technique of needle insertion and treatment of complications should be recommended.