International Journal of General Medicine and Pharmacy(IJGMP)
ISSN (P): 2319–3999; ISSN (E): 2319–4006
Vol. 13, Issue 1, Jul-Dec 2024; 31–38

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations

MINIMISING VENOUS CANNULATION PAIN: COMPARISONOF 'RAW' 22 GAUGE VENFLON CANNULATION VERSUS THAT OF LIGNOCAINE INJECTION USING EITHER A 25 GAUGE OR 29 GAUGE (DIABETIC) NEEDLE PRIOR TO CANNULATION

***Eamon P. Molloy*[1] *& Anton A Van Den Berg*[2]**

[1]*Peel Health Campus, Mandurah, Western Australia*

[2]*Sale District Hospital, Sale 3850, Victoria, Australia*

ABSTRACT

INTRODUCTION: *EMLA cream or a pre-cannulation injection of lignocaine are mostly used to attenuate pain of cannulation, despite pain associated with lignocaine injection. Others claim minimal iatrogenic discomfort when inserting a 22 gaugeVenfloncannula without EMLA or lignocaine injection (raw cannulation). The efficacy of reducing pain by injecting lignocaine through an ultra-small 29 gauge 'insulin' needle has not been studied to date.This prospective, observational audit compared pain responses to raw cannulation using a 22gaugeVenflon, with that caused by injecting lignocaine either through the conventional 25gauge needle (as control) or via a 29gauge insulin (diabetic) needle (as test group), prior to venous cannulation using a 20gauge Venflon in both latter groups.*

METHODS: *Three groups of 66 patients each were audited. Subjective (using a visual analogue pain scale: 0 = no pain, 10 = severe pain) and objective pain responses (vocalization, grimace, any movement) were recorded to raw cannulation, lignocaine injection and, in the 29gauge needle group, following insertion of a 20 gauge Venflon after lignocaine injection.*

RESULTS*: Similar low incidences of objective pain occurred in the three groups, and in the 20gaugeVenflon post-29 gauge needle/lignocaine injection sub-group. Subjective pain responses occurred both with greatest incidence (χ^2 =5.87, $p<0.0125$) and overall number of responses ($\chi^2=12.59$, $p<0.0125$) in those cannulated raw compared with those given lignocaine through a 25 gauge needle. In the latter group,the least overall pain response to cannulation occurred compared to both raw cannulation ($\chi^2=12.59$, $p<0.00025$) and cannulation after 29gauge needle/lignocaine injection ($\chi^2=5.87$, $p<0.0125$).*

CONCLUSION: *This study strongly suggests that 'raw' cannulation using a 22 gaugeVenflonis marginally more painful than cannulation following the administration of lignocaine using either the standard25gauge or 29 gauge test 'insulin' needle, and confirms that lignocaine injection does not totally obtund subsequent venous cannulation pain*

KEY WORDS: *Cannulation, Needle, Venflon, Lignocaine*

Article History

Received: *23 Nov 2024* | ***Revised:*** *25 Nov 2024* | ***Accepted:*** *29 Nov 2024*