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Original Research Paper

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A STUDY OF COMPARISON OF SECURING (Rt) IJV ANATOMICAL LANDMARK TECHNIQUE V/S U. S. GUIDED TECHNIQUE

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ABSTRACT

Central venous lines access especially right internal jugular vein is very commonly performed procedure during the general anaesthesia to monitor the patient's vascular status, and giving drugs to the patients through these lines. Ultra sound guided technic improves the securing time and minimizes the complications of the surrounding structures both vascular and nerves other important structures in the securing area.

KEYWORDS : General anesthesia, USG, Central venous access.

INTRODUCTION:

Central venous access is a commonly performed procedure with multiple indications in routine and emergent situations. Central venous access is defined as placement of a catheter such that the catheter is inserted into a venous great vessel. The venous great vessels include the superior vena cava, inferior vena cava, brachiocephalic veins, internal jugular veins, subclavian veins, iliac veins, and common femoral veins. The aim of this study is to find out the better way to get the way done. Basically two things will be watched the time to access and the number of attempts. This study puts in an effort to find the superior way.

AIMS AND OBJECTIVES:

The aim of this prospective observational study is to explore the safety and efficacy of RIJ vein cannulation using two techniques

Materials and Methods:

This study was done in the Department of Anesthesia in A.J.Institute of Medical Sciences This study was done using 60 patients. They were divided into two groups. Group one where the USG was used and Group 2 the anatomical landmarks was used.

The study was done from July 2017 to June 2018.

Inclusion Criteria

1. The patients were aged between 30-50 years
2. The BMI of the patients was used to select the patients

Exclusion Criteria

1. Aged below 30 and above 50 years
2. Patients with co-morbidities
3. Obese patients were not taken

All the statistics were done using the SPSS software 2015 (California)

Results:

Table 1: Venous Access time

Group	Group 1	Group 2
Mean time	18.34 seconds	92.87 seconds
Standard deviation	3.71 seconds	8.87 seconds
P-Vaue	0.00076 (<0.05)	

So it is highly significant.

Table 2: Attempts

Group	Group 1	Group 2
Mean Attempts	1.98	2.45
Standard deviation	0.12	0.6
P-Vaue	0.00056 (<0.05)	

This is also highly significant.

Discussion:

Percutaneous cannulation of the IJV using external landmarks was first described in 1966.[1] Out of the various routes available IJV catheterization is most preferred in patients undergoing cardiac surgery because it is safe convenient and easily accessible and there is no risk of catheter kinking during sternal retraction.[2] Right IJV cannulation is preferred over the left IJV because it has a larger diameter, and a straighter course to the RA.[3] On the other hand, left IJV cannulation is more time consuming, requires more attempts and is associated with a higher rate of complications including the risk of thoracic duct injury.[4] The landmark technique has been used traditionally with a success rate of 85-95%.[5,6] It is a blind procedure primarily based on the anatomical landmarks but an experienced operator also locates the vein by balloting it by finger.[6,7] First described in 1984 by Legler and Nugent ultrasound has been used as either a pre locating device or a real time guidance device for central venous cannulations.[8] Real-time ultrasound guidance may be provided either through the external application of an ultrasound probe to visualize the vessels or with Doppler probe for identifying needle entry into the vein. Troianos et al.,[9] Denys et al.,[10] and Turker et al.,[11] compared landmark technique with ultrasound-guided technique of IJV cannulation. Their success rate increased from 96%, 88.1%, and 97.36%, respectively (in the landmark technique) to 100% (99.47% in the study by Turker et al.,[11]) in the ultrasound-guided group and the number of successful first attempt at cannulations also increased in the ultrasound group.

Conclusion:

In conclusion, application of ultrasound-guided techniques increases the success rate of IJV cannulation, decreases complications, and time of catheterization in comparison to anatomical landmark technique.

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