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International Journal of Current Research
Vol. 6, Issue, 02, pp.5288-5289, February, 2014

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

CASE REPORT

A UNILATERAL VARIANT OF MUSCULOCUTANEOUS NERVE-CASE REPORT

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ARTICLE INFO

Article History:
Received 15th November, 2013
Received in revised form
10th December, 2013
Accepted 25th January, 2014
Published online 28th February, 2014

Key words:
Musculocutaneous N,
MedianN,
Variation,
Surgical procedure.

ABSTRACT

The fracture of distal third of arm is common in the surgical procedure. The Musculocutaneous (MCN) nerve which supply the arm is very important for various surgical procedures,and which shows the frequent variation.But variation in the origin,course, and connection of MCN are not uncommon, and such variations have their own surgical importance. So that the purpose of present case report is identify the variation of MCN. The Routine cadaveric dissection method has been used for present case report. And during the routine dissection we have been observed unilateral variation of MCN on the right side, which pierces the corachobrachialis muscle and after shorts course MCN fibre communicate with median nerve. The structure of left limb was found to be normal in our case report. So the knowledge of thevariations of MCN in the distal third of the arm with median nerve is important in the anterior approach for the fracture of the humerus in various Limb surgeries.

INTRODUCTION

The MCN is the nerve of anterior Compartments of arms; and it is derived from the lateral cord of brachial plexus,especially from the 5th and 6thcervical nerve, but more often than not contains some fiber from seventh (03). MCN gives a branch to the shoulder joints and passesinferolaterally to supply coracobrachialis muscle and pierce the muscle, after piercing the muscle MCN descend between biceps and brachialis, sending branches to both, and emerge from beneath the lateral border of tendon of biceps as lateral Cutaneous nerve of forearm(09).The MCN has frequent variation, but variation in the origin, course, and connection of MCN are not uncommon, various reporter reports the variation of MCN and its branches in past. Variation of MCN have clinical significance mainly during surgical procedures,knowledge of such variation helps in the management of arm traumas, nerve grafting.

Case Report

In the arm, the MCN passes through Coracobrachialis muscle and innervates Coracobrachialis as well as the brachialis and the biceps brachii muscles and later continues as the lateral cutaneous nerve of the forearm without exhibiting any communication with the MN or other nerves.The present variation was observed in the right upper limb of male cadaver, during the routine dissection in the anatomy department of our college.The present case, we have reported unilateral variation of MCN in male cadaver during routine Dissection of anatomy department, the dissection of brachial plexus was done carefully and variation to normal usual pattern was noted, sketched and photographed. In that case The MCN took origin from the lateral cord of brachial plexus and descended to pierce coracobrachialis muscle.After emerging from corachobrachialis muscle the branch to biceps brachi and after shorts course MCN fibre communicated with median nerve (Fig -01), and rest parts of MCN fibre passing between brachialis and biceps brachiimuscle. The rest of course and branches of two nerves in arm, forearm & hand of this side was normal. The course and branches of the nerves were normal on left side.

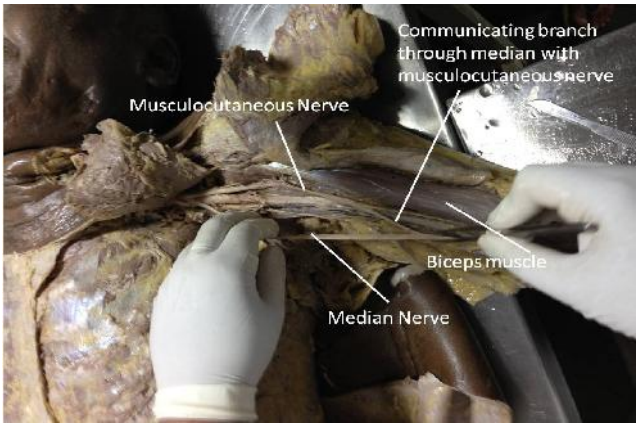

Fig. 1. Shows the communication of median nerve with MCN

DISCUSSION

Review of literature show reporting of much variation of brachial plexus especially that of MCN and median nerve, the

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communication between the median nerve andMCN were described from nineteenth century *(Testut, 1884, 1899; Villar, 1888; Harris, 1904)*.Nakatani *et al*. (1977), Le Minor (6),Gumusburun and adiguzel (2), Song *ET AL* (10), Rao & Chaudhary (8), Jamuna&Amundha(04) have reported either unilateral or bilateral absence of MCN. Chitra (2007) (01) Observed 02 Case Where MCN did not pierce Coracobrachialis muscle. Tsikaas *et al*. (1983) (11) (have reported origin of MCN from unilaterally in male cadaver. The nerve to Coracobrachialis may arise from the lateral cord rather than from the MCN, Kerr (1918) (05) found that a branch from the MCN nerve to the median had been reported in from 8.1% to 36.19% of different series.Le Minor (1990) (06) classified the variations of MCN in to five types.

Type 1: no communication between the MN and MCN.

Type 2: the fibres of medial root of MN pass through the MCN and join the MN in the middle of the arm.

Type 3:fibres of the lateral root of the MN pass through the MCN and after some distance leave it to form lateral root of MN.

Type 4: the MCN fibres join the lateral root of the MN and after some distance the MCN arise from the MN.

Type 5: The MCN is absent and the entire fibers of MCN pass through lateral root of MN and fibers to the muscles supplied by MCN branch out directly from MN. In this type the MCN does not pierce the coracobrachialis muscle.

In our present case report our finding in type 2 variant of Le Minor. Venieratos and Anangnostopoulou (1998) (12) also suggested classification of MCN in relation to coracobrachialismuscle in the three type.

Type I: communication is proximal to coracobrachialis muscle;

Type II: communication is distal to muscle;

Type III:neither the nerve nor the communicating branch pierce the coracobrachialis muscle.

In the present variation is coinciding with type 02 venieratorsclassification. Studies by Nakatani *et al*. (1997) (7). Revealed three variations in which the musculocutaneous nerve did not pierce the coracobrachialis. Tsikaras *et al*. (1983)(11). Revealed that MCN arise from the median nerve unilaterally in a male cadaver

Conclusion

The knowledge of the variations of this communication between the MCN and median nerves in the distal third of the arm is important in the anterior approach for the fracture of the humerus. Clinical implication of this could be that injury of MCN proximal to the anastomotic branch between musculocutaneous and median nerve may lead to unexpected presentation of weakness of forearm flexors and thenar muscles.

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