

ABSTRACT

TITLE OF THE ABSTRACT:

Determination of Anatomical Location of Motor Entry Points of Muscles in the Posterior Compartment of the Leg- For Effective Motor Point Block

DEPARTMENT: Anatomy

NAME OF THE CANDIDATE: S.Rajalakshmi

DEGREE AND SUBJECT: M.D. Anatomy

NAME OF THE GUIDE: Dr.Sunil J.Holla

OBJECTIVES:

To determine the anatomical location of motor entry points of muscles in the posterior compartment of the leg except plantaris and to suggest ideal sites for motor point block

METHODS:

Measurements were standardised by pilot study. 30 limbs from 15 cadavers were dissected. Vertical distance between the most proximal medial articular margin of tibia (MPM) and the most distal point of medial malleolus was designated as the reference line. The reference line was divided into five equal portions. Motor entry points of the muscles in the posterior compartment of the leg except plantaris were carefully dissected. Variables measured were: length of the reference line, number of motor branches from tibial nerve to each muscle, number and location of motor entry

points with respect to the reference line. Data entry was made in Microsoft Excel and analysed with SPSS. Mean, standard deviation, range was calculated. Student t-test was used for comparison between right and left limbs, males and females.

RESULTS:

Medial head of gastrocnemius had one to nine motor entry points. The ideal sites of motor point block are first-fifth of the reference line and also above MPM. Lateral head of gastrocnemius had one to six motor entry points. The ideal sites of motor point block are first-fifth of the reference line and also above MPM. Posterior surface of soleus had one to six motor entry points. 96.6% of the motor entry points were located in first-fifth and hence the ideal site of motor point block. Anterior surface of soleus had one to four motor entry points. 78.8% of the motor entry points were located in second-fifth of the reference line and hence the ideal site of motor point block. Flexor hallucis longus had one to eleven motor entry points. 77.9% of the motor entry points were located in third- and fourth-fifths of the reference line and hence the ideal sites of motor point block. Flexor digitorum longus had one to eight motor entry points. 89.7% of the motor entry points were located in second- and third-fifths of the reference line and hence the ideal sites of motor point block. Tibialis posterior had one to eight motor entry points. 95% of the motor entry points were located in the first- and second-fifths of the reference line and hence the ideal sites of motor point block. Popliteus had one to six motor entry points. All the motor entry points were located in first-fifth of the reference line. The ideal site of motor point block is first-fifth of the reference line.

KEYWORDS: Motor entry point, motor point block, gastrocnemius, soleus, flexor hallucis longus, flexor digitorum longus, tibialis posterior, popliteus, spasticity