

SUMMARY

The gastrocnemius, tibialis anterior, extensor digitorum longus and soleus muscle of both normal male and female mice have been studied for mean number of fibres, mean fibre diameter and mean cross sectional area of fibres in relation to the muscle weight, body weight and age.

Body weight of male mice was 10% greater than female mice. Weights of male SOL, TA, EDL and GAST muscles were 18%, 17%, 13% and 12% greater than female mice muscle weights respectively.

Mean values of fibre number in males were greater by 19%, 13%, 6%, 3% for SOL, GAST, EDL and TA muscles than females respectively. Statistical analysis showed that mean fibre number was significantly different between SOL muscle of male and female mice while no significant difference was observed for all other three muscles.

While mean fibre diameter was 22%, 7%, 11%, 9% higher in males SOL, GAST, EDL, TA muscle than female mice respectively. Statistics showed no gender variations between mean fibre diameter of GAST, TA and EDL muscle except SOL muscle.

Mean fibre cross sectional area was 39%, 14%, 16%, 21% greater in male SOL, GAST, EDL, TA muscle than female mice respectively. Gender variations for mean fibre cross sectional areas were found significant for soleus muscle while it was not significant for all other three muscles.

Generally males had greater fibre number, fibre size and areas than female muscles. The sequence of number of fibres and weights of muscles were observed to be in GAST>TA>EDL>SOL sequence in both genders as compared to each other. Sequence observed for mean fibre diameters and mean cross sectional areas of muscle fibres varied in both genders.

Mean Fibre number remained constant throughout animal life while mean fiber diameter and area increased gradually with age, body weight, and muscle weight in both sexes. The present study revealed that gender differences in the studied hind limb muscles of mice were in their number of fibres and size of the fibres. Hind limb muscles of mouse are dimorphic in nature and muscles having bigger weight and greater fibre number tend to perform more functions than muscles with less fibre number.