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**Histological evidence of early proper chronic rotator cuff tear animal model in rabbit****Mohamed Attia Abdou, Yang-Kyung Kim and Myung-Sun Kim**

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**Background:** The incidence of supraspinatus tendon tear is common and affects most of the aged population. However, exact period of fatty infiltration, muscle atrophy and chronicity require further understanding with histological evidence. Using rabbit models, these changes can be investigated in a controlled laboratory study.

**Hypotheses:** The chronic supraspinatus tendon tear pathology will be evident at two weeks from the tear time.

**Study Design:** Controlled laboratory study.

**Methods:** Supraspinatus tendon tears were created for 45 male New Zealand white rabbits at their right shoulder, Sham operation at the left side. Rabbits were divided after tendon detachment into six groups according to time factor (A, B, C and D, E, F). Group A: Two weeks, group B: four weeks, group C: six weeks, group D: eight weeks, group E: 12 weeks and group F: 24 weeks. Then, central muscle specimens were harvested from for histological evaluation and grading by Goutallier classification.

**Results & Conclusion:** After 2 weeks, fatty infiltration within supraspinatus muscles was demonstrated using hematoxylin and eosin stains in grades two according to Goutallier fatty classification in chronic rotator cuff tear patients, rather than previous results. So, 2 weeks is a proper model and less costic with more saving the potentials of research facilities.

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