Scapholunate advanced collapse – A case control study

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OBJECTIVES
Scapholunate Advanced Collapse (SLAC) is the most common pattern of wrist arthritis. Etiology is thought to be due to attenuation of the scapholunate ligament through acute traumatic injury or chronic attenuation. This results in altered wrist kinematics and ultimately SLAC wrist pattern.

METHODS
Institutional review board approval was obtained. Cases were identified between January 1, 2008 and January 1, 2013 who had undergone the following surgical procedures: four corner fusion, proximal row carpectomy, total wrist fusion, and total wrist arthroplasty. A total of 163 patients were identified, of which 61 patients had an underlying diagnosis of SLAC wrist (Figure 1).

The control group was drawn from the same study base, choosing patients with a diagnosis of 1st CMC arthritis. All patients undergoing ligament reconstruction were identified from the same institution and time period. A total of 483 patients were identified and 61 patients were randomly selected with a confirmed diagnosis of carpometacarpal osteoarthritis (CMC OA).

Charts were reviewed and the following data was extracted: age, gender, history of traumatic injury, history of manual labour, duration of symptoms, and dominant hand involvement. Data was analyzed between groups using a Pearson chi-squared test for proportion data and independent samples t-test for continuous variables. Significant differences were defined as p<0.05.

RESULTS
Patients undergoing surgical procedures for SLAC wrist were significantly more likely to be male, have a history of traumatic injury, longer duration of symptoms, involved in a manual labour profession, and were younger when compared with CMC OA control patients. No difference was seen between SLAC and CMC OA patients in the involvement of the dominant or non-dominant hand (Table 1).

Complete data sets were extracted where possible, denominators less than 61 represent unavailable data.

CONCLUSION
Results of this study identify the demographic features of patients being treated for advanced SLAC wrist. This data provides quantitative evidence showing the high proportion of males, manual labourers, and history of a traumatic injury.

Weaknesses inherent to this study are its case control design and the inclusion of only advanced SLAC wrist patients undergoing surgical procedures. In addition, this data was collected from a tertiary referral centre and is specific to similar populations. We tried to control for recall bias of a history of traumatic injury by choosing a control group with arthritis that is not thought to be due to trauma.

REFERENCES