INTRODUCTION

The Brostrom-Gould is an effective procedure for chronic lateral ankle instability. The early results for anatomic reconstructions are promising with excellent short-term outcomes. Covellite et al. reported on 12 patients with a three- and a half-year follow-up and found good-to-excellent results in 83% of patients with no recurrence of instability while restoring ankle stability, strength, and normal subtalar motion. 

METHODS

A systematic review of electronic databases and relevant peer-reviewed sources was performed. Major pediatric and orthopedic foot and ankle surgery textbooks were obtained to identify any useful materials not accessible from electronic searches. The search was performed in April 2016. Studies were eligible for inclusion if the Brostrom-Gould procedure was performed, and follow-up greater than 5 years. Studies that met inclusion criteria were agreed upon unanimously by three independent reviewers. Studies were excluded if the technique involved the use of industry suture anchors, tendon autograft or allograft, performed through arthroscopy, studies not written in English, or had inadequate follow-up. There was no restriction on date of publication.

RESULTS

The search for potentially eligible information for inclusion in the systematic review yielded a total of 198 references. All references identified were obtained and reviewed independently by three reviewers between April 2016 to August 2016. After considering all of the potentially eligible references, 11 (5.5%) of the studies met all of the inclusion criteria. The weighted age of the studies involving the modified Brostrom procedure was 26.0 years old. The weighted mean follow-up 8.4 years. A total of 669 modified Brostroms were identified that met the inclusion criteria with 10.2% undergoing revision. All eleven studies specified the indications for surgery, but only four studies specified the indications for revision surgery. The overall complication rate was 36/669 (5.4%).

DISCUSSION

A total of eleven studies involving 669 patients with a weighted mean follow up of 8.4 years could be identified that meet the inclusion criteria. (3,4-11,18-20) We focused on the incidence of revision surgery and complication rates at a long-term follow-up. A systematic review of the available data found that the incidence of revision surgery after modified Brostrom procedure for chronic lateral ankle instability is 1.2% at a weighted mean of 8.4-year follow-up. (Table 1)

The early results for anatomic reconstructions are promising with excellent short-term outcomes. (6,19) Despite these studies that reported the results at short- and mid-term follow-up, little has been published on the true longevity of this type of procedure. A systematic review of the literature was undertaken to determine the outcomes and incidence of revision after long-term follow-up.

CONCLUSION

In conclusion, after a systematic review of the published reports, we identified an incidence of revision surgery of 1.2% for the modified Brostrom procedure at a weighted mean follow-up of 8.4 years. The incidence of revision correlated strongly with the patient satisfaction and displayed acceptable patient outcomes at long-term follow-up. The results of this systematic review supports the modified Brostrom procedure as having low incidence of revision surgery, which is maintained at least to a weighted mean of 8.4 years postoperative follow-up time period. However, potential areas for additional prospective investigation remain, especially with regards to the specific technical components of the Brostrom procedure that are beneficial, the actual need for surgical revision with fixation constructs involving suture anchor and arthroscopic techniques, and comparison to tendon augmentation techniques for chronic lateral ankle instability. To truly validate our findings, multiple, well-designed, appropriately weighted studies are required. The results of the present systematic review could be useful in developing future prospective cohort studies. There is a need to simplify the comparison of relative outcome in quality between surgical techniques and standardize methods to assess patient outcomes and satisfaction.