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ABSTRACT TITLE: Reconstruction of Chronic Pectoralis Major Ruptures Using Grafts: A Systematic Review and Meta-analysis of Results

BACKGROUND

While recent studies encourage operative management of pectoralis major tendon ruptures, available data on reconstruction is limited with no comparative studies.

OBJECTIVES

The purpose of this study is to compare reconstruction to primary repairs of chronic ruptures without graft augmentation. A secondary comparison of outcomes between allograft and autograft is also performed.

METHODS

In accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, a systematic review of the literature was completed by use of MEDLINE and Google Scholar databases. Criteria for inclusion were peer-reviewed studies, with English translation, reporting outcomes of reconstruction of distal pectoralis muscle tears with sufficient delineation from patients managed differently. The MINORS (Methodological Index for Non-Randomized Studies) and National Institute for Health and Clinical Excellence (NICE) quality assessment tool was used to assess the quality of the existing literature. Meta-analysis of outcomes was completed. Significance was set at $P < .05$.

RESULTS

A total of 16 articles, covering a total of 82 patients, met inclusion criteria for review. No studies reported use of both allograft and autograft within the same study. All patients were male, with an average age of 29.5 years. Reconstruction was significantly superior to primary repair with respective functional outcome scores of 3.38 and 2.72 ($P=0.048$). There was no significant difference in outcome between the allograft and autograft.

CONCLUSIONS

Reconstruction with graft augmentation has significantly superior results to primary repair of chronic pectoralis major tendon ruptures. There was no significant difference in outcome between autograft and allograft tissue.