

Original Article

Postoperative Complications Following Repair of Acute Open Tendo Achilles Injury: Our Experience

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Abstract

Back ground: The Achilles tendon is the most superficial tendon in the body. Due to its position, it is usually prone to injury during trauma.

Objective: The aim of the present study was to assess the postoperative complications after repair of acute tendo-achilles injury.

Methodology: This Prospective observational Study study was carried out among 50 patients attending at the Department of Orthopaedics, Comilla Medical College Hospital, Cumilla within the defined period from January 2022 to December 2022. Ethical clearance was obtained from the Institutional Review Board (IRB) of Comilla Medical College Hospital. Purposive sampling was done according to availability of the patients. Statistical analyses of the results were obtained by using window based computer software devised with Statistical Packages for Social Sciences (SPSS-20.1).

Result: Majority patients (n=16, 32.0%) belonged to age group 21-30 years. More than two third (68.0%) patients were male and 16 patients (32.0%) were female. After operation excellent outcome was found in 30(60.0%) patients, good in 16(32.0%) patients, fair in 3(6.0%) patients and poor in 1(2.0%) patients. No post-operative complication was found in 36 (72.0%) patients and different types of complications were found in 14(28.0%) patients. Swelling is the most common post operative complication (12%) followed by ugly scar (10%). There was significant association between complications and outcome ($p<0.05$).

Conclusion: Approximately 14 in 50 patients undergoing operative repair of an acute Achilles tendon injury developed a postoperative complication.

Keywords: post-operative complication, tendo-achilles injury

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Introduction

The body's strongest and thickest tendon is the tendon of Achilles. The name Achilles comes from the Greek warrior who was unstoppable and unstoppable. Another name for it is a Tendocalcaneus¹. The Achilles tendon is one of the most frequent ruptured tendons in the human body² and it's the 3rd most frequent major tendon injury behind those

of the rotator cuff and knee extensor mechanism³. Despite being the strongest and largest tendon in the body, its superficial location in the body makes it vulnerable to injury in both athletes and non-athletes⁴⁻⁵. Achilles tendon injuries can result from sports injuries, road traffic accidents, penetrating injuries, unintentional cuts from

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Materials & method

This Prospective observational Study study was carried out among 50 patients attending at the Department of Orthopaedics, Comilla Medical College Hospital, Cumilla within the defined period from January 2022 to December 2022. Ethical clearance was obtained from the Institutional Review Board (IRB) of Comilla Medical College Hospital. Purposive sampling was done according to availability of the patients. The collected data were entered into the computer and analyzed by using SPSS (version 20.1) to assess the postoperative complications after repair of acute tendo-achilles injury. Evaluation of primary repair of tendo-achilles injury was done according to Juhana Leppilahti's modified scoring scale.

Juhana Leppilahti's modified scoring scale given below

Clinical feature	Score
Pain	
None	15
Mild, no limitations on recreational activities	10
Moderate, limitations on recreational, but not daily activities	5
Severe, limitations on recreational and daily activities	0

Stiffness

None	15
Mild, occasional, no limitations on recreational activities	10
Moderate, limitations on recreational, but not daily activities	5
Severe, limitations on recreational and daily activities	0

Call muscle weakness (Subjective)

None	15
Mild, no limitations on recreational activities	10
Moderate, limitations on recreational, but not daily activities	5
Severe, limitations on recreational and daily activities	0

Footwear restrictions

None	10
Mild, most shoes tolerated	5
Moderate, unable to tolerate fashionable shoes, modified shoes tolerated	0

Active range of motion (ROM) difference between ankles

Normal (<6)	15
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Mild (6-10)	10
Moderate (11-15)	5
Severe >15)	0

Subjective result

Very satisfied	15
Satisfied with minor reservations	10
Satisfied with major reservations	5
Dissatisfied	0

Power of plantar flexion

MRC -5	15
MRC -4	12
MRC -3	9
MRC -2	6
MRC -1	3
Result (Total score)	100
Rating	
Excellent	90-100
Good	75-89
Fair	60-74
Poor	<60

Table 1 shows that majority patients (n=16,32.0%) belonged to age group 21-30 years. The mean age was 29.48 with standard deviation of 13.53 years. More than two third (68.0%) patients were male and 16 patients (32.0%) were female. DM was found in 2(4.0%) patients, HTN was found in 2(4.0%) patients and HTN+DM+COPD was found in 1(2.0%) patients.

Parameter	Number	percentage
Age group (years)		
≤20	13	26.0
21-30	16	32.0
31-40	10	20.0
41-50	07	14.0
>50	04	8.0
Mean±SD	29.48±13.53	
Sex		
Male	34	68.0
Female	16	32.0
Co-morbidity		
DM	02	4.0
HTN	02	4.0
HTN+DM+COPD	01	2.0

Figure 1 shows that excellent outcome was found in 30(60.0%) patients, good in 16(32.0%) patients, fair in 3(6.0%) patients and poor in 1(2.0%) patients.

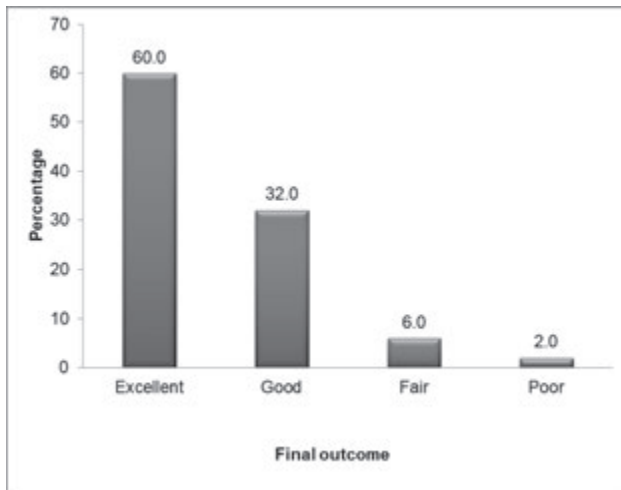


Figure 1: Distribution of the study patients by final outcome (n=50)

Table 2 shows that no complication was found in 36 (72.0%) patients and different type of complications were found in 14(28.0%) patients.

Table 2: Distribution of the study patients by post-operative complications (n=50)

Complications	Frequency	Percentage
No complication	36	72.0
Complication	14	28.0

Table 3 shows that, 6 patients (12.0%) had swelling, 5 patients had (10.0%) ugly scare, 1 patient had (2.0%) surgical site infection, and 1 patient had (2.0%) SSI+ re-rupture and 1 patient had (2.0%) wound gap.

Table 3: Common post-operative complications after operation (n=50)

Common Complications	Frequency	Percentage
Surgical site infection (SSI)	01	2.0
SSI+ re-rupture	01	2.0
Swelling	06	12.0
Ugly scar	05	10.0
Wound gap	01	2.0

Table 4 shows that there was significant association between complications and final outcome ($p < 0.05$).

Table 4: Association of complications with final outcome (n=50)

Complications	Excellent (n=30)	Good (n=16)	Fair (n=3)	Poor (n=1)	P value
No complication	30 (100%)	5 (31.3%)	1 (33.3%)	0 (0%)	0.001s
Complication	0 (0%)	11 (68.8%)	2 (66.7%)	01 (100%)	
Surgical site infection (SSI)	0 (0%)	0 (0%)	01 (33.3%)	0 (0%)	
SSI+Re rupture	0 (0%)	0 (0%)	0 (0%)	01 (100%)	
Swelling	0 (0%)	06 (37.5%)	0 (0%)	0 (0%)	
Ugly scar	0 (0%)	05 (31.3%)	0 (0%)	0 (0%)	
Wound gap	0 (0%)	0 (0%)	01 (33.3%)	0 (0%)	

Discussion

The majority of the 16 (32.0%) patients in this study were between the ages of 21-30 years. The mean age was 29.48 years, with a standard deviation of 13.53 years. Awe et al.9 reported the age range was 3–70 years with a mean of 37.5+SD13.58 years, while the most affected age groups were the teenagers and the young adults with 33 (63.5%) patients. In terms of gender, this study observed that about two-thirds (68%) of patients were male and one-third(32%) were female, which is consistent with other studies that found a higher prevalence of tendo Achilles injuries in males. Ahmed et al.10 reported among 50 patients, 38(76.0%) were male, and 12(24.0%) were female. When it came to co-morbidity, this study found that a small number of patients had diabetes, hypertension, or COPD. Other studies also reported similar findings, with some noting that smoking was a risk factor for tendo Achilles injuries. According to the results of this study, the majority of patients (72.0%) did not experience any complications, while 28.0% did have some complications. Among them majority 6(12.0%) had swelling, 5(10.0%) ugly scare, 1(2.0%) surgical site infection, 1(2.0%) SSI+ re rupture and 1(2.0%) wound gap. There was no mortality. Rayhan et al.11 reported in 15 (50%) cases shown no complications and in another 15 (50%) cases shown different types of complications. Among minor complications 5(17%) was superficial skin infection, 4 (13%) was swelling and 4 (13%) was ugly scar. Among major complications 1 (3.33%) was failure of tendon healing due to deep

wound infection and 1 (3.33%) was skin necrosis requiring flap coverage. Ahmed et al.¹⁰ regarding minor complications, 4(8.0%) patients had superficial skin infection, 4(8.0%) had mild swelling, 2 (4.0%) had ugly scar and 1(2.0%) had wound gap. Bishop et al.¹² reported suture granuloma/spitting suture was found in 17(4.6%) patients, skin edge necrosis in 3(0.8%) patients, blister in 2(0.54%) patients, pressure ulcer in 2(0.54%) patients, superficial dehiscence in 7(1.89%) patients and deep infection in 2(0.54%) patients. Awe et al.⁹ observed complications occurred in 11(21.2%) patients which included wound infection in 5 cases, flap tip necrosis in 4 cases and wound dehiscence in 2 cases.

Conclusion

Approximately 14 in 50 patients undergoing operative repair of an acute Achilles tendon injury developed a postoperative complication. Swelling is the most common post operative complication followed by ugly scar.

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Conflict of Interest

Authors declare no conflict of Interest.

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