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INTRODUCTION & OBJECTIVE

Achilles tendon surgery is associated with relevant wound-healing challenges, including surgical site infection, dehiscence and delayed recovery. Identifying factors associated with postoperative complications may support risk stratification and perioperative optimisation. This study aimed to evaluate the frequency of infectious and wound-related complications after Achilles tendon surgery and to identify factors associated with postoperative adverse outcomes and prolonged wound healing.

METHODS

A retrospective observational study was conducted including 64 patients who underwent Achilles tendon surgery. Data were collected in a structured database and analysed using descriptive statistics. Postoperative outcomes were estimated with 95% confidence intervals (95% CI). The primary outcome was the occurrence of at least one postoperative complication. A secondary outcome was prolonged wound healing, defined as healing time equal to or greater than two months. Univariate analyses were performed using Pearson’s chi-square test or exact tests for categorical variables and the Mann–Whitney test for quantitative variables. Multivariate logistic regression with forward stepwise selection was used to identify independent predictors. Model performance was assessed using receiver operating characteristic (ROC) curves.

RESULTS

20.3%

any complication

15.6%

infectious

12.5%

dehiscence

0%

rerupture

Postoperative outcome	n	Risk (95% CI)
At least one complication	13	20.3% (11.3–32.2)
Infectious adverse event	10	15.6% (7.8–26.9)
Non-infectious adverse event	8	12.5% (5.6–23.2)
Surgical wound dehiscence	8	12.5% (5.6–23.2)
Superficial infection	5	7.8% (2.6–17.3)
Nerve injury	5	7.8% (2.6–17.3)
Deep infection	3	4.7% (1.0–13.1)
Surgical re-approach	2	3.1% (0.4–10.8)
Edge necrosis	1	1.6% (0.0–8.4)
Deep vein thrombosis	1	1.6% (0.0–8.4)

Table 1: Postoperative outcomes (n = 64). No rerupture or tendon exposure (0%, 95% CI 0.0–5.6).

Factors associated with complications

Comorbidity	n	Complications	Relative risk	p
Any comorbidity	12	50.0%	3.7	0.011
Smoking	6	50.0%	2.9	0.092
Diabetes	6	33.3%	1.8	0.593
Obesity	1	100%	5.3	0.203
No comorbidity	52	13.5%	ref	—

Table 2: Association between comorbidities and postoperative complications, including relative risks and p values.

Patients with at least one comorbidity had a significantly higher risk of complications (50.0% vs 13.5%; OR 3.7, 95% CI 1.1–12.4; p = 0.011) and a higher incidence of prolonged healing (42% vs 12%; p = 0.025). In the adjusted model, comorbidity remained associated with postoperative complications, with an area under the ROC curve below 0.80. The mean age was 45 years, and 73% of patients were between 40 and 60 years old

WOUND COMPLICATIONS



Figure 1: Extensive posterior wound dehiscence after open Achilles tendon repair, posterior Achilles wound to with necrotic and fibrinous promote perfusion and tissue. Figure 2: Negative-pressure wound therapy applied to the open Achilles tendon repair, posterior Achilles wound to with necrotic and fibrinous promote perfusion and granulation tissue.

MICROBIOLOGICAL PROFILE

The principal isolates recovered from culture-positive wound infections were *Proteus mirabilis*, *Enterococcus* spp. and *Pseudomonas aeruginosa*.

INFECTION-PREVENTION INVESTMENT

Laminar airflow installed in the operating theatres

Active infection control committee: restricted theatre traffic, jewellery-free policy, aseptic auditing

Standardised protocols: cefazolin prophylaxis, uniform immobilisation and rehabilitation

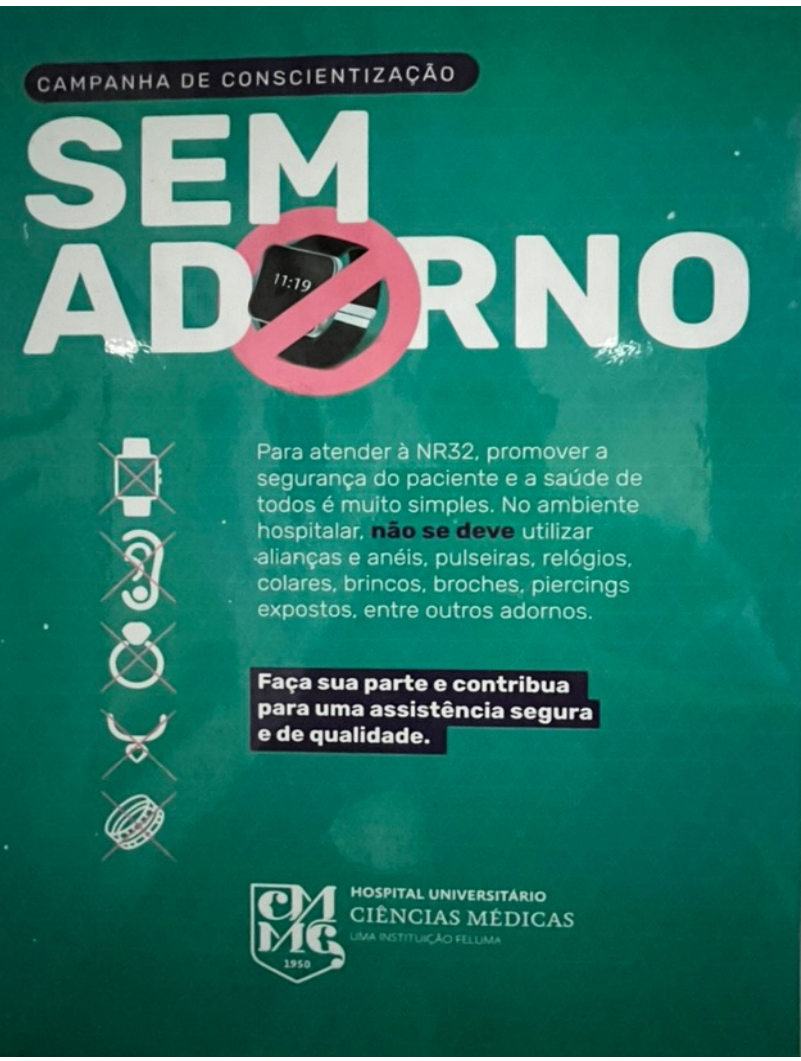


Figure 3 : Institutional campaign promoting jewelry-free practice in the surgical unit, in accordance with NR-32.

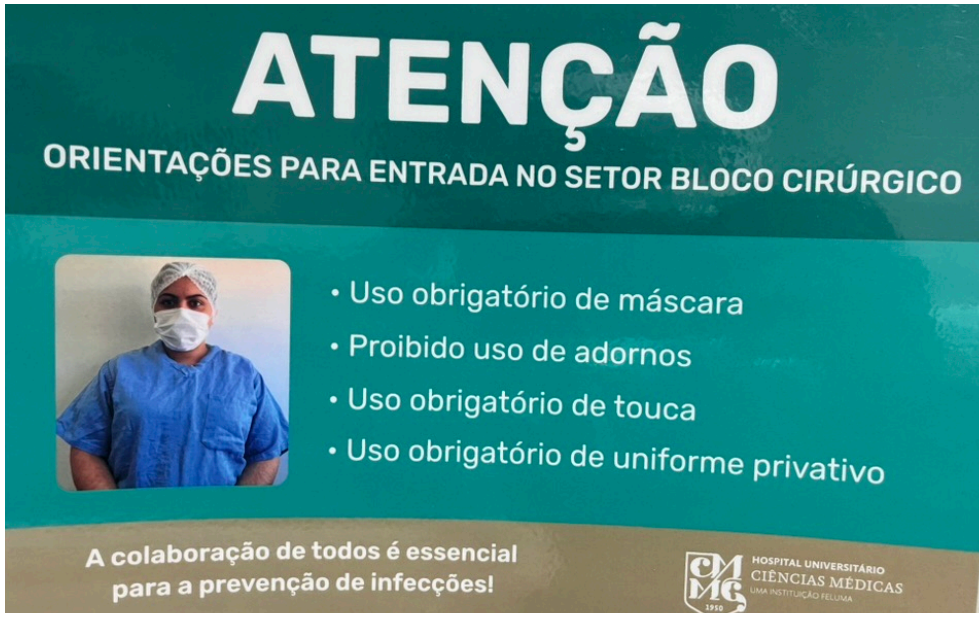


Figure 4 : Institutional signage listing mandatory attire for entry into the surgical block: mask, cap, jewellery-free policy, and dedicated theatre uniform.

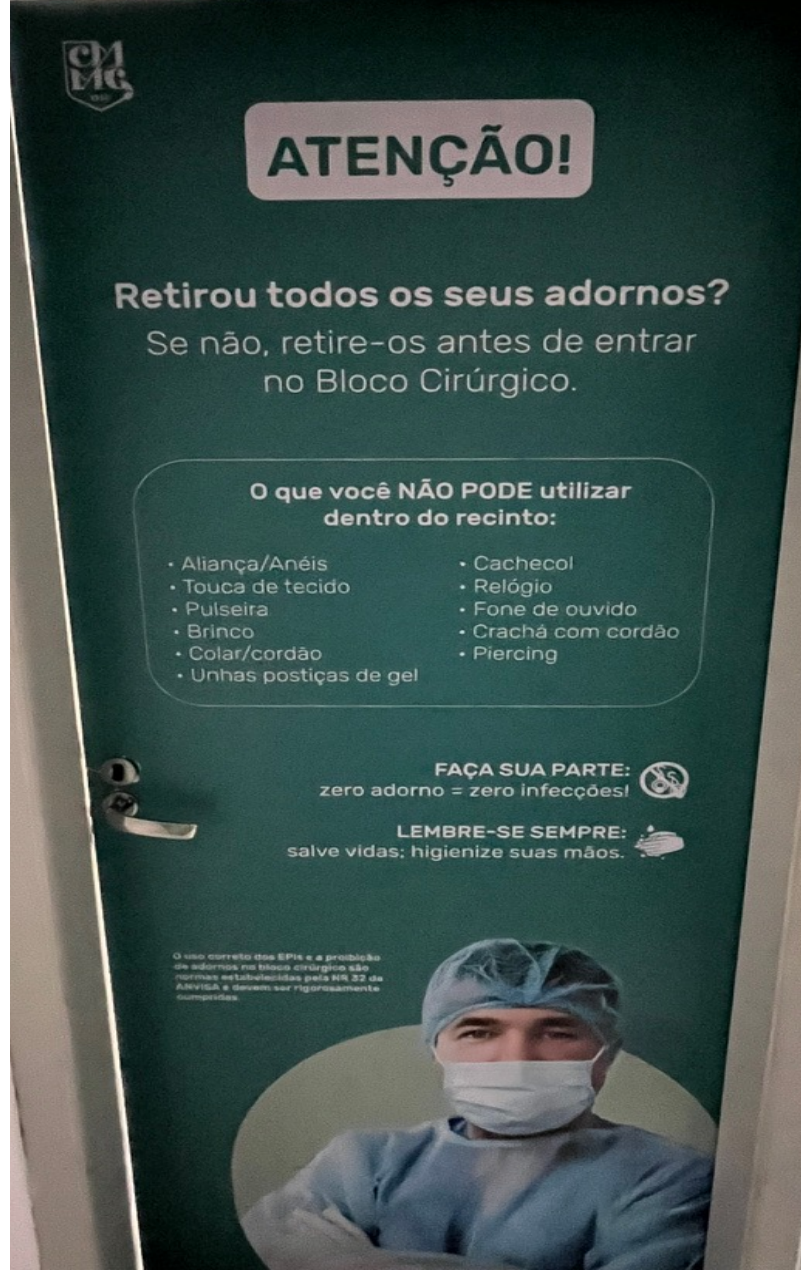


Figure 5: Notice mounted on the operating theatre door, reminding staff to remove all accessories before entering the surgical block, with the message that zero accessories means zero infections.

CONCLUSIONS

Postoperative outcomes after Achilles tendon surgery were generally favourable; however, infectious and wound-healing complications were clinically relevant. Comorbidities emerged as the main independent risk factor for both postoperative complications and delayed wound healing, highlighting the importance of perioperative risk assessment and optimisation.

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