ISRCTN11759959 https://doi.org/10.1186/ISRCTN11759959

The effect of platelet-rich fibrin on pain and recovery after tonsil surgery in children

Submission date 15/08/2026	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 01/09/2026	**Overall study status** Completed	
Last Edited 21/08/2026	**Condition category** Surgery	

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Principal investigator

Contact name
Dr Abdulmohsen Alterki

Contact details
Kuwait City, Kuwait
Kuwait City
Kuwait
KW
-
abdulmohsen.alterki@dasmaninstitute.org

Type(s)
Scientific, Public

Contact name
Dr Salman Hussain

Contact details
75 Laurier Ave E
Ottawa
Canada
K1N 6N5
+1 (0)613 562 5700
salhussain@toh.ca

Additional identifiers

Study information

Scientific Title
Platelet-rich fibrin for postoperative recovery following pediatric adenotonsillectomy: a non-randomized clinical trial

Study objectives
To evaluate the effect of platelet-rich fibrin (PRF) on postoperative pain and recovery following pediatric tonsillectomy or adenotonsillectomy, and to compare two methods of PRF administration (injectable PRF and PRF membrane application) with standard surgical care without PRF.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 05/07/2022, Kuwait Ethics Board Committee (Ministry of Health, Kuwait, Kuwait City, KW, Kuwait; +965 (0)24622228; -), ref: #19782022

Primary study design
Interventional

Allocation
Non-randomized controlled trial

Masking
Blinded (masking used)

Control
Active

Assignment
Parallel

Purpose
Treatment

Study type(s)

Health condition(s) or problem(s) studied
Postoperative pain and functional recovery following adenotonsillectomy in children

Interventions
All participants underwent tonsillectomy, with or without adenoidectomy, under general anesthesia using a standardized cold-steel dissection technique. Tonsillectomy was performed

by a single experienced surgeon, with care taken to minimize injury to the palatoglossus and palatopharyngeus muscles. Participants were allocated non-randomly to one of three parallel treatment groups:

Control group:
Participants underwent standard tonsillectomy or adenotonsillectomy alone and received no platelet-rich fibrin (PRF) treatment following tonsil removal.

Injectable PRF group:
Following tonsillectomy, autologous PRF was prepared from venous blood obtained from the participant and processed by centrifugation. The resulting liquid PRF was administered by injection into the tonsillar fossae bilaterally at the completion of tonsillectomy.

PRF membrane group:
Following tonsillectomy, autologous PRF was prepared from venous blood obtained from the participant and processed to produce a PRF membrane. The membrane was applied directly over each tonsillar fossa bilaterally. A single 4-0 Vicryl simple interrupted suture was used to approximate the posterior tonsillar pillar to the anterior tonsillar pillar to retain the membrane within the tonsillar fossa.

PRF preparation:
Approximately 10 ml of venous blood was collected into each of two tubes and centrifuged using the A-PRF liquid program at 1300 rpm for 14 minutes. Following centrifugation, approximately 4–5 ml of PRF product was separated from the red blood cell layer and used for injection or preparation/application of the membrane, according to treatment allocation.

Postoperative care:
Participants in all three groups received the same standard postoperative care and analgesic regimen.

Intervention Type
Procedure/Surgery

Primary outcome(s)
1. Return to normal activity measured using postoperative day on which the child returned to normal activities or school at the presurgery level, measured at during postoperative follow-up until postoperative day 10

2. Cessation of analgesic medication measured using postoperative day on which postoperative analgesic medication was discontinued, measured at during postoperative follow-up until postoperative day 10

3. Postoperative pain intensity measured using the FACES pain scale at 2, 8, 14, and 24 hours after surgery and on postoperative days 3, 7, and 10

Key secondary outcome(s)
1. Postoperative hemorrhage measured using occurrence of any postoperative bleeding event requiring inpatient assessment or treatment during the postoperative follow-up period. Hemorrhage was classified as primary when occurring within 24 hours of surgery and secondary when occurring more than 24 hours after surgery at postoperative day 10

2. Adverse events measured using occurrence of adverse events potentially related to PRF administration during postoperative follow-up at postoperative day 10

Completion date
10/08/2026

Eligibility

Key inclusion criteria
1. Patients younger than 18 years of age
2. Tonsillar hypertrophy and/or adenoid hypertrophy meeting clinical criteria for tonsillectomy with or without adenoidectomy
3. Undergoing elective tonsillectomy or adenotonsillectomy
4. Written informed consent obtained from a parent or legal guardian

Healthy volunteers allowed
No

Age group
Child

Lower age limit
6 Months

Upper age limit
17 Years

Sex
All

Total final enrolment
262

Key exclusion criteria
1. Active malignancy
2. Previous history of malignancy
3. Major cardiac comorbidities
4. Major respiratory comorbidities

Date of first enrolment
01/03/2023

Date of final enrolment
28/07/2026

Locations

Countries of recruitment
Kuwait

Sponsor information

Organisation
Kuwait Institution of Medical Specialization (KIMS)

Funder(s)

Funder type

Funder Name
Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available