

Treatment of Bennett fractures with tension-band wiring through a small incision under loupes and headlight

Submission date 09/09/2018	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 19/09/2018	Overall study status Completed	☐ Protocol
Last Edited 06/12/2021	Condition category Injury, Occupational Diseases, Poisoning	☐ Statistical analysis plan
		☒ Results
		☐ Individual participant data

Plain English summary of protocol

Background and study aims

A Bennett fracture is a common fracture of the thumb. Although numerous treatments have been proposed, the best treatment choice is still controversial. The aim of this study is to investigate the effectiveness of treating Bennett fractures with tension-band wiring through a small incision (cut) under loupes (magnifying lenses) and headlight.

Who can participate?

Patients with Bennett fractures

What does the study involve?

All participants receive treatment with tension-band wiring through a small incision under loupes and headlight. At the final follow-up at 20 months after surgery, joint range of motion, pinch and grip strength, and hand function are assessed.

What are the possible benefits and risks of participating?

Possible benefits include early range of motion which results in a better function of the thumb. Possible risks include joint stiffness and wound infection.

Where is the study run from?

Third Hospital of Hebei Medical University (China)

When is the study starting and how long is it expected to run for?

August 2014 to October 2017

Who is funding the study?

Third Hospital of Hebei Medical University (China)

Who is the main contact?

Dr Xu Zhang

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Contact information

Type(s)

Public

Contact name

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Contact details

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Additional identifiers

Protocol serial number

THHMC20184561

Study information

Scientific Title

Treatment of Bennett fractures with tension-band wiring through a small incision under loupes and headlight

Acronym

TBW

Study objectives

Treatment of Bennett fractures with tension-band wiring through a small incision under loupes and headlight. The treatments are effective with the use of the technique.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Institutional review board of the Third Hospital of Hebei Medical University, 18/09/2014, ref: THHMC20141547

Study design

Observational case series

Primary study design

Observational

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Bennett fractures

Interventions

Treatment of Bennett fractures with tension-band wiring through a small incision under loupes and headlight. The tension band wiring technique was performed in 37 Bennett fractures. The mean time between the injury and operation was 6 days. At the final follow-up, range of motion, pinch and grip strength, and function were assessed.

Intervention Type

Procedure/Surgery

Primary outcome(s)

Range of motion: active motion of the first CMC joint assessed using a goniometer at 20 months after surgery

Key secondary outcome(s)

Measured at 20 months after surgery:

1. Pinch and grip strengths measured using dynamometers. In order to exclude the discrepancy between the dominant and nondominant hand strength, the scores for analysis were based on that the pinch strength was 5% and grip strength was 6% higher at dominant sides compared to the nondominant sides.
2. Hand function assessed using the Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire

Completion date

01/10/2017

Eligibility

Key inclusion criteria

1. A Bennett fracture with intra-articular gap or step-off at or above 1 mm
2. Size of the fragment at or above 20% of the joint surface on the lateral view
3. Normal opposite hand for comparison

Participant type(s)

All

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Key exclusion criteria

Rolando fracture, comminuted fracture, and other combined injuries of the same hand

Date of first enrolment

01/10/2014

Date of final enrolment

21/11/2015

Locations

Countries of recruitment

China

Study participating centre

Third Hospital of Hebei Medical University

Ziqiang road

Shijiazhuang

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Sponsor information

Organisation

Third Hospital of Hebei Medical University

ROR

<https://ror.org/004eknx63>

Funder(s)

Funder type

University/education

Funder Name

Third Hospital of Hebei Medical University

Results and Publications

Individual participant data (IPD) sharing plan

The data sharing plans for the current study are unknown and will be made available at a later date.

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		01/02/2019		Yes	No