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Outcomes after triceps branch to axillary nerve transfer assessed with dynamometer; a case series of 15 patients

Submission date
16/05/2025

Recruitment status
No longer recruiting

Registration date
04/06/2025

Overall study status
Completed

Last Edited
04/06/2025

Condition category
Injury, Occupational Diseases, Poisoning

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
Nerve transfer with the triceps branch from the radial nerve to the axillary nerve is a widely used treatment method for isolated axillary nerve injury and has been used at Oslo University Hospital since 2011. The study aims to evaluate the clinical outcomes on a follow-up examination.

Who can participate?
All patients treated with this method for isolated axillary injury between 2011 to 2023.

What does the study involve?
The study involves clinical examination by an orthopaedic surgeon and a physiotherapist, with measurements of the movement in the shoulder, and the strength in the shoulder and elbow on both sides. The patients are also asked to fill out a questionnaire (Quick DASH).

What are the possible benefits and risks of participating?
The benefits of participation are mainly to provide information and increase knowledge about the procedure, and it does not involve any risks.

Where is the study run from?
Oslo University Hospital, Orthopaedic Department

When is the study starting and how long is it expected to run for?
March 2023 to October 2023

Who is funding the study?
Oslo University Hospital

Who is the main contact?
Hrønn Olafsdottir, orthopaedic surgeon, Unit for hand and microsurgery, hroola@ous-hf.no

Contact information

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Public, Scientific

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Additional identifiers

Protocol serial number
23/17428

Study information

Scientific Title
Outcomes after triceps branch to axillary nerve transfer assessed with dynamometer; a case series of 15 patients

Acronym
OTANT

Study objectives
To evaluate the clinical results in an Oslo University Hospital unit after treating isolated axillary nerve injury with a transfer of a triceps branch of the radial nerve to the axillary nerve.

Ethics approval required

Ethics approval required

Ethics approval(s)
Approved 21/08/2023, Data Protection Officer, Oslo University Hospital (Postboks 4956 Nydalen, Oslo, 0424, Norway; +4723070000; personvern@oslo-universitetssykehus.no), ref: 23/17428

Primary study design
Observational

Study design
Single-centre retrospective case series

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Nerve transfer with triceps branch of radial nerve to the axillary nerve for isolated axillary nerve injury.

Interventions
Patients are identified via the hospital's record system, with patients treated between 2011 and 2023. They are invited to follow up for clinical examination with measurement of range of motion in the shoulder and strength with a dynamometer, and according to the British Medical Research Council (BMRC) scale. Donor morbidity will be evaluated with strength measurements in the same manner. Measurements will be compared to preoperative measurements. Special tests for deltoid dysfunction will be used on follow-up examination.

Intervention Type
Procedure/Surgery

Primary outcome(s)
Strength in the deltoid muscle was measured using a dynamometer, and according to the the British Medical Research Council (BMRC) scale at follow-up

Key secondary outcome(s)
1. Range of motion in the shoulder measured using a goniometer pre- and postoperatively
2. Strength in the triceps muscle measured using a dynamometer and according to the British Medical Research Council (BMRC) scale at follow-up
3. Deltoid function measured using the Bertelli test, swallow tail test and deltoid extension lag test at follow-up
4. Patient-reported outcomes measured using QuickDASH questionnaire on follow-up

Completion date
01/10/2023

Eligibility

Key inclusion criteria

All adult patients, treated with nerve transfer with triceps branch from radial nerve to axillary nerve, for isolated axillary nerve injury, from 2011-2023 in our unit, who accept participation with written consent.

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
17 Years

Upper age limit
78 Years

Sex
All

Total final enrolment
15

Key exclusion criteria
1. Children < 17 years
2. Non-acceptance of an invitation for follow-up

Date of first enrolment
01/09/2023

Date of final enrolment
01/10/2023

Locations

Countries of recruitment
Norway

Study participating centre
Oslo University Hospital
Sognsvannsveien 20
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Sponsor information

Organisation
Oslo University Hospital

ROR
https://ror.org/00j9c2840

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Oslo universitetssykehus HF

Alternative Name(s)
Oslo University Hospital, Oslo universitetssykehus, OUS

Funding Body Type
Government organisation

Funding Body Subtype
Other non-profit organizations

Location
Norway

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated and/or analysed during the current study will be published as a supplement to the results publication.

IPD sharing plan summary
Published as a supplement to the results publication