International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 03 Issue 05 May 2023

Page No: 960-962

DOI: https://doi.org/10.47191/ijmscrs/v3-i5-39, Impact Factor: 6.597

Surgery in Major Traumatic Accidents of the Hand

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ABSTRACT

The hand is one of the most important parts of the human body and its ability to perform everyday tasks is fundamental to the performance of daily life. The epidemiology of catastrophic hand injuries is varied, depending on the type of injury. These can be caused by car accidents, sports accidents, industrial accidents, and in some cases, acts of violence. Catastrophic hand injuries can also result from diseases, such as osteomyelitis or hand cancer. Advances in medical technology and surgical procedures have allowed surgeons to improve precision and control in repairing injuries to nerves, blood vessels, bones, tendons and skin.

KEYWORDS: hand surgery, accident, reconstruction

ARTICLE DETAILS

Published On:
24 May 2023

Available on:
https://ijmscr.org/

INTRODUCTION

Catastrophic hand injuries are injuries that can affect the functionality of the upper extremity and, therefore, the quality of life of the affected person. The hand is one of the most important parts of the human body and its ability to perform everyday tasks is fundamental to the performance of daily life.

The epidemiology of catastrophic hand injuries is varied, depending on the type of injury. These can be caused by car accidents, sports accidents, industrial accidents, and in some cases, acts of violence. Catastrophic hand injuries can also result from diseases, such as osteomyelitis or hand cancer.

The significance of these injuries in the daily life of the affected individual and their environment is significant, as it can have an emotional, economic and social impact on the patient. Catastrophic hand injuries can result in permanent disability, which can affect the patient's ability to work and perform daily activities.

Therefore, catastrophic hand surgery has become an important field of medicine and rehabilitation. The goal of catastrophic hand surgery is to restore function to the affected hand and minimize the negative impact of the injury on the patient's quality of life.

In this literature review article, the main methods of catastrophic hand surgery, their theoretical framework and relevant discussions in relation to the topic will be reviewed. In addition, the conclusions obtained based on the review of the available medical literature will be presented.

Catastrophic hand

The hand is a complex and functionally important anatomical structure in the human body. The hand has a large number of structures, including bones, muscles, tendons, nerves, and blood vessels. Each of these structures fulfills a specific function that allows movement and sensation in the hand.

When a catastrophic hand injury occurs, one or more of these structures can be affected, which can result in significant dysfunction. The main types of catastrophic hand injuries include amputations, fractures, nerve injuries, and tendon injuries.

Amputation is an injury in which part or all of the hand is separated from the rest of the body. Amputation can occur as a result of a car accident, industrial accident, or act of violence. Amputation of the hand can have a significant impact on the patient's quality of life, as it can limit the patient's ability to perform daily activities.

Hand fractures are injuries to the bones of the hand. Fractures can occur in any bone of the hand, but are most common in the metacarpal bones and phalanges. Fractures can be caused by direct or indirect trauma, such as a fall or blow. Fractures can be simple or complex and can affect hand function.

Nerve injuries in the hand are injuries to the nerves that transmit signals from the hand to the brain and spinal cord. Nerve injuries can be caused by a fracture, a crush injury, or a penetrating wound. Nerve injuries can affect the sensation and movement of the hand.

Tendon injuries are injuries to the tendons that connect the muscles of the hand to the bones of the hand. Tendon injuries can be caused by a laceration or a penetrating wound. Tendon injuries can affect the patient's ability to move the hand and may require surgery to be repaired.

Catastrophic hand surgery aims to restore function to the affected hand and minimize the negative impact of the injury on the patient's quality of life. Methods of catastrophic hand surgery include microsurgery, osteosynthesis, tenorrhaphy, and skin reconstruction.

Microsurgery is a surgical technique used to repair the blood vessels, nerves, and tissues of the hand. Microsurgery is performed by joining small blood vessels and nerves using very fine and precise suturing techniques. Microsurgery is especially useful in repairing nerve and vascular injuries in the hand.

Osteosynthesis is a surgical technique used to repair fractured bones in the hand. Osteosynthesis is performed by using plates and screws to fix the fracture and promote healing.

Tenorrhaphy is a surgical technique used to repair the tendons of the hand. Tenorrhaphy is performed by suturing the damaged tendon and attaching the tendon to the bones using sutures or anchors. Tenorrhaphy is useful in repairing tendon injuries in the hand, as it can restore tendon function and allow hand movement.

Skin reconstruction is a surgical technique used to repair skin lesions on the hand. Skin reconstruction is performed using skin grafts, skin flaps and advanced healing techniques. Skin reconstruction is important in repairing hand injuries because it can prevent infections and promote wound healing.

The success of catastrophic hand surgery depends on several factors, including the severity of the injury, the patient's age and overall health, and the patient's ability to follow postoperative and rehabilitation instructions. Rehabilitation is a critical part of recovery after catastrophic hand surgery. Rehabilitation may include physical and occupational therapy, as well as exercises and activities to improve strength, flexibility, and hand function.

DISCUSSION

Catastrophic hand surgery is a complex surgical technique that involves a combination of skills and knowledge in repairing serious hand injuries. Catastrophic hand surgery has evolved significantly in recent decades thanks to advances in medical technology and surgical procedures.

Microsurgery is an advanced surgical technique that allows surgeons to repair injuries to the nerves, blood vessels, and soft tissues of the hand with unprecedented precision and control. Osteosynthesis is another surgical technique used in catastrophic hand surgery that allows for the repair of broken bones and the restoration of normal hand anatomy.

In addition, tenorrhaphy and skin reconstruction are crucial surgical techniques in the repair of tendon and skin injuries, respectively. These techniques allow the restoration of tendon function and the prevention of infections in skin wounds.

Rehabilitation is a critical component of recovery after catastrophic hand surgery. Patients may require physical and occupational therapy, as well as exercises and activities to improve strength, flexibility, and hand function. Rehabilitation can take time and patience, but it is essential to a successful recovery.

CONCLUSION

Catastrophic hand surgery is a complex surgical technique that involves a combination of skills and knowledge to repair serious hand injuries. Advances in medical technology and surgical procedures have allowed surgeons to improve precision and control in repairing injuries to nerves, blood vessels, bones, tendons and skin.

Rehabilitation is a critical part of recovery after catastrophic hand surgery and can require time and patience. Patients may need physical and occupational therapy, as well as exercises and activities to improve strength, flexibility, and hand function.

In summary, catastrophic hand surgery is an important surgical technique that can help minimize the negative impact of serious hand injuries on a patient's quality of life. Advances in medical technology and surgical procedures continue to improve accuracy and control in hand injury repair, and rehabilitation remains a critical component of successful recovery after catastrophic hand surgery.

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