Case Study Report

FASCIOTOMY AVOIDED

MY01 Continuous Compartment Pressure Monitor Helps Avoid a Fasciotomy

Treated at R Adams Cowley Shock Trauma Center

Case Information

Age: 30s | **Sex:** Male |

Mode of Injury:

- Bicondylar Tibial Fracture
- Fall

MY01 Used:

- At-Risk Fracture
- Localized Swelling
- MY01 Pre-Op Monitoring

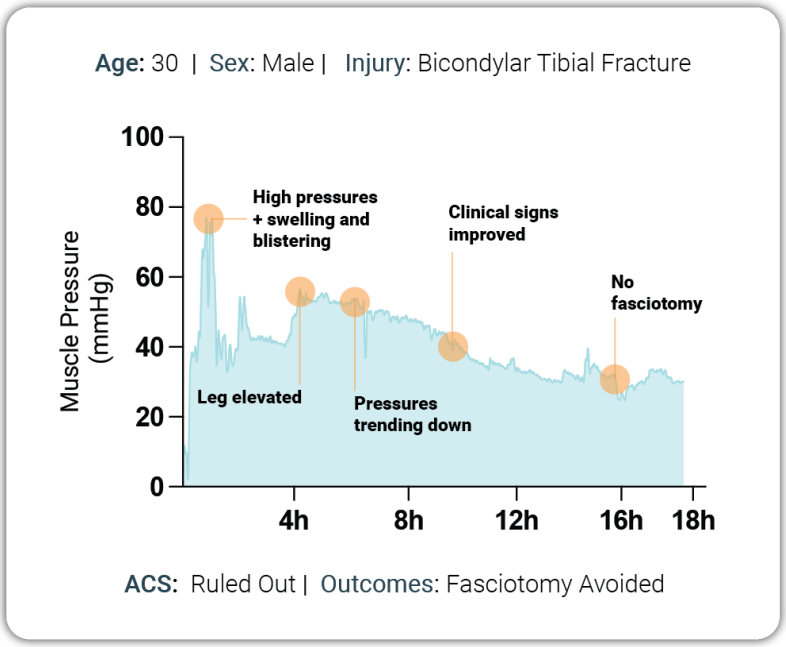
Case Outcome

Managing the risk of Compartment Syndrome with the MY01 Continuous Compartment Pressure Monitor allowed the surgeon to observe the evolution of the patient's condition. Initial elevated muscle pressures were of concern at 80mmHg. Pressures trended down and correlated with improvement in patient's pain. Patient did not have a fasciotomy and did not develop ACS.

Bicondylar Tibial Fracture from [1]

Clinical Presentation

A male in his 30s had a bicondylar tibial fracture caused by high energy trauma, presenting with localized blister wound swelling. The patient's injury, age and clinical signs pointed towards ACS. However performing a fasciotomy carries a known surgical site infection risk of ~13%[2]. Considering that the risk of SSI is already high when performing an ORIF (~30%)[3] avoiding unnecessary surgeries was critical. In order to avoid performing an unnecessary fasciotomy, the attending surgeon opted for a Continuous Pressure monitoring.



Management of Compartment Syndrome Risk

The initial compartment pressure was initially around 80mmHg but decreasing over time. Patient was kept for observation. The MY01 device was put in at the end of the external fixation portion of definitive treatment. Intracompartmental muscle pressures immediately decreased with elevation of the limb and continued to trend down over time (with perfusion pressures remaining above 30mmHg). Clinical signs improved upon examination. Patient did not undergo fasciotomy and ACS was ruled out.

Presentation of injury

Deployed MY01 device around fracture site

Picture at follow up

Outcome of Management and Follow-up

Opting for continuous pressure monitoring enabled the orthopedic surgeon to keep the patient under observation to see if condition improved. The patient's condition improved over the monitoring period enabling the orthopedic surgeon to rule out ACS. At the 2-week follow up the patient had full motor and sensory functions, and the skin showed normal healing with no signs of infection.

Why this Patient was a Candidate for MY01 Continuous Pressure Monitoring

The patient had many of the risk factors associated with compartment syndrome leading to high clinical suspicion. The elevated pressures displayed by the MY01 Continuous Pressure Monitor prompted the treating Orthopedic Physician to keep the patient under observation and monitor the patient's evolving condition. Decreasing intramuscular pressure in conjunction with improving clinical signs enabled the treating physician to rule out ACS. Avoiding surgery was beneficial as fasciotomies are associated with a high rate of complications due to deep surgical site infection.

Source

This case was managed at R Adams Cowley Shock Trauma Center, a Level 1 teaching facility in Baltimore (Maryland).

1. Yu Z, Zheng L, Zhang Y, Li J, Ma B. Functional and radiological evaluations of high-energy tibial plateau fractures treated with double-buttress plate fixation. Eur J Med Res. 2009 May 14;14(5):200-5. doi: 10.1186/2047-783x-14-5-200. PMID: 19541576; PMCID: PMC3351978.
2. Hines, E. M., S. Dowling, F. Hegerty, A. Pelecanos and K. Tetsworth (2021). "Bacterial infection of fasciotomy wounds following decompression for acute compartment syndrome (bacterial infection of fasciotomy wounds)." Injury.
3. Dubina AG, Paryavi E, Manson TT, Allmon C, O'Toole RV. Surgical site infection in tibial plateau fractures with ipsilateral compartment syndrome. Injury. 2017;48(2):495-500. doi:10.1016/j.injury.2016.10.017

Note: In this publication, the underlying use of the MY01 Continuous Compartmental Pressure Monitor falls within the current indications for use of this device.

Note: The MY01 Continuous Compartmental Pressure Monitor is intended for real-time and continuous measurement of compartmental pressures. The measured compartmental pressures can be used as an aid in the diagnosis of Compartment Syndrome.

Rx ONLY Refer to IFU supplied with each device for indications, instructions, and precautions.

MY01

MY01, Inc.
400 Boul de Maisonneuve Ouest, Suite 700
Montréal, QC H3A 1L4

info@my01.io
www.MY01.io