MICRO LABS LIMITED

# ORTHO NEWSCAST

Vol 1|Issue 14|2020

Dear Doctor,

Greetings from Micro Labs. We are happy to bring you "Ortho Newscast" which contains latest and interesting news in the field of Orthopaedics.

*This issue contains*

- Comparison of arthroscopic assisted acromioclavicular joint fixation and anatomic acromioclavicular joint reconstruction in High grade acromioclavicular injury.
- A case of Brodie's Abscess in Subacute Osteomyelitis.
- A novel Surgical Insufflator and Smoke Evacuator cleared by FDA.
- Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

**Medical Team,**

**Micro Labs Limited**

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# Comparison of arthroscopic assisted acromioclavicular joint fixation and anatomic acromioclavicular joint reconstruction in High grade acromioclavicular injury.

.Acromioclavicular (AC) joint Injuries cause disruption of the AC and Coracoclavicular (CC) ligaments could lead to loss of clavicular strut function. A High-grade AC joint injury remain challenging because of highly variety of treatment and limited evidence exists comparing clinical outcomes and complications after surgery.

Aim of the current study is to evaluate the clinical and radiological outcome after arthroscopic assisted acromioclavicular Joint fixation and anatomic acromioclavicular joint reconstruction.

Methods:

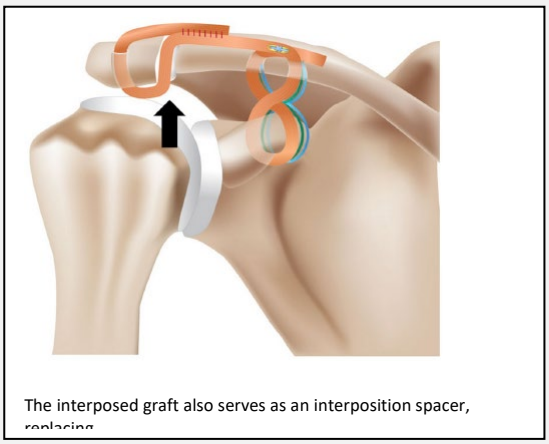
A Retrospective Clinical Cohort Study involving 35 patients.

Patients included were those with a high grade Rockwood grade III, IV, V AC separation, no previous acromioclavicular injury, operative treatment arthroscopic assisted AC joint fixation or anatomic AC joint reconstruction no preoperative osteoarthritic change, no prior shoulder surgery.

The exclusion criteria were patients with minimal or moderate ACJ displacement (Rockwood type I or II), neurological disease that affect shoulder function, patient with fractures of distal clavicle.

The diagnoses were confirmed with preoperative radiographs.

Patients were treated surgically with arthroscopic assisted acromioclavicular joint fixation and anatomic acromioclavicular joint reconstruction.



The interposed graft also serves as an interposition spacer, replacing

The clinical assessment consists of Specific AC Score (SACS) and Nottingham Score. The radiographic evaluations were performed to evaluate the stability of reduction and the complications are assessed.

Results:

19 patients (51%) underwent AC joint reconstruction and 16 patients (48%) underwent AC joint fixation surgery.

The median of SAC Score was 26 (1st- 3rd quartile 23.8–27.2, range 19–29) in the AC joint reconstruction group, and 20 (1st-3rd quartile 17.7–20.9, range 16–24) in the AC Joint fixation group.

A significant different between groups with AC joint reconstruction and fixation group (22 vs 13, $p < 0.005$) and (20 vs. 10, $p < 0.005$) in SAC score and Nottingham score, respectively.

No significant different in CC distance between two groups. At the last follow up 6 patient develop loss of reduction with CC percentage>50% in AC joint fixation.

AC joint is reduced in over-reduction position

Complication developed in 5 patients including 2 mild osteolysis, 1 superficial infection, 1 implant failure, and 1 clavicle fracture.

Discussion:

Incidence of coracoid or clavicular fractures was greater in open procedures compared with arthroscopic procedures but this procedure did not demonstrate significant differences in failure rates compared with open procedures.

Arthroscopic procedure to treat AC joint injuries to allow for excellent and safe visualization of the coracoid process and to reduce the risk of neurovascular structures damage when attempting to pass suture or graft material also for diagnosing and treating glenohumeral pathologies.

Conclusion:

Anatomical Acromio lavicular joint reconstruction was associated with functional and radiologic benefits and better restored the stability compared to arthroscopic assisted acromioclavicular joint fixation.

Reference:

Chernchujit B et al. High grade acromioclavicular injury: Comparison of arthroscopic assisted acromioclavicular joint fixation and anatomic acromioclavicular joint reconstruction. Journal of Orthopaedics 22 (2020) 151–157.

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# A case of Brodie's Abscess in Subacute Osteomyelitis.

Subacute osteomyelitis (OM) is one of the difficult condition to diagnose and treat, complicated with an atypical presentation of a Brodie's abscess (BA).

BA is seen typically in pediatric, male populations, with lesser incidence in adult populations.

Case presentation:

A 31-year-old male presented with a 4-month history of right leg discomfort, swelling, and intermittent serosanguinous drainage.

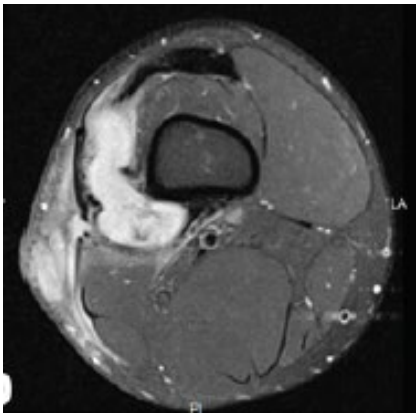
Medical history was significant for Osteomyelitis(OM) of the right leg at age 4, requiring inpatient hospitalization for treatment with intravenous antibiotics and monitoring due to lesion proximity to the tibial growth plate.

No complications were reported from the hospitalization, however, noted that the area of infection would have intermittent swelling and warmth.

During adolescence s, the patient complained of "flare-ups," in which he described mild pain with movement at the infection site, particularly during exercise and team sports.

Episodes occur as frequently as every 3 months, however, would self-resolve after several days with rest and over-the counter nonsteroidal anti-inflammatory medications.

Due to benign, self-resolving course, the patient and his family elected for observation instead of further work-up.



At presentation, the patient stated that this episode did not resolve with rest or anti-inflammatory medication. He reported the drainage had been ongoing for 2 weeks and appeared to come from a punctum in the center of the swelling, but denied any fever, chills, sharp pain, change in sensation, or restriction in active or passive range of motion.

X-ray showed no acute OM or fractures. Magnetic resonance imaging (MRI) of the knee revealed 6.8 × 5.3 × 8.5cm septated fluid collection consistent with a large abscess extending from the subcutaneous adipose tissue along the lateral aspect of the thigh through a perforation in the fascia posterior to the vastus lateralis and tensor fascia lata and anterior to the biceps femoris . The fluid collection also extended deep between the muscle bellies to the level of the posterior lateral cortex of the distal femoral diaphysis. However , no periosteal or marrow edema was present, confirming the absence of acute OM .

Orthopaedic consultation determined that no acute intervention was required at the time and for the patient to follow-up as an outpatient.

Subsequent culture and biopsy revealed granulation tissue with skin flora. Concern for possible cold abscess versus malignancy then open debridement was done to better evaluate and treat the abscess.

Opening the site revealed copious scar tissue and cystic debris were evacuated from the area, with gross appearance consistent with longstanding subacute OM and a Brodie's abscess (BA).

Bone biopsy and culture revealed methicillin - sensitive S. aureus.

Polymethylmethacrylate antibiotic beads were placed and the incision closed. Infectious disease
recommended that the patient be discharged on 6 weeks of Keflex (Cephalexin).
At the follow-up of 6-month, the patient reported return to his baseline mobility after physical therapy and no flare-ups of his previous symptoms.

Discussion:

Subacute OM is a low-grade infection of the bone that is long-standing, often asymptomatic for long periods of time.

Onset is frequently insidious , the first symptoms at presentation can be erythematous swelling, tenderness over the area, and frank pain.

BA is a suppurative collection of necrosis that is encapsulated by granulation tissue in the setting of subacute or chronic OM. BA is commonly found in the proximal and distal metaphyseal region of long bones, particularly the tibia.

Conclusion:

Subacute OM is a difficult to diagnose and treat, further complicated with an atypical presentation of a BA.

Reference:

Chin J et al. Challenges in the Diagnosis of Brodie's Abscess in Subacute Osteomyelitis. Journal of Orthopaedic Case Reports 2020 May-June: 10(3):Page 1-4.

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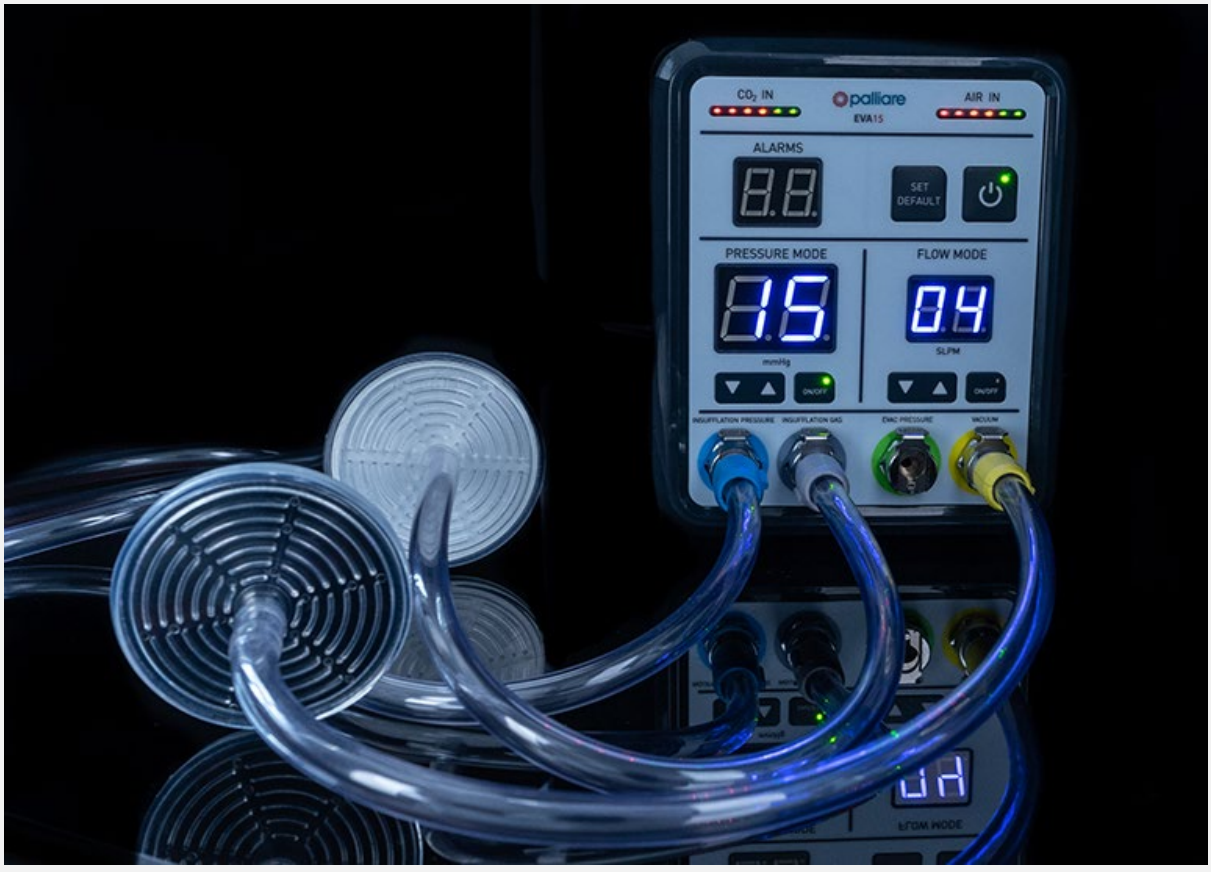
# IN THE NEWS

## A novel Surgical Insufflator and Smoke Evacuator cleared by FDA




FDA has cleared a EVA15 insufflator and smoke evacuation system. This device combines two devices into a compact package that is designed for use in laparoscopic, endoscopic, endolumenal, and robotic procedures.

Smoke is one of the common problem in all kinds of minimally invasive procedures that involve ablation, cauterization, and other kinds of tissue manipulation. It makes difficult to see the surgical procedure, but it can also be harmful to the clinicians that end up breathing in the soot. According to the American Association of periOperative Registered Nurses (AORN), a single day in the operating room may be equivalent to smoking more than a pack of cigarettes as far as mutagenicity goes.

Insufflation pumps CO2 into the pneumoperitoneum, inflating the abdomen, so that there's space to work inside. Evacuation is used to move smoke away from the cavity, hopefully straight into an OR scavenging system, thereby allowing clinicians a clear view inside.

Device also has a built-in 0.1 micron two-stage filter that helps to remove some of the dangerous particles within the smoke at an efficiency of 99.998%. There's also the option to install a second filter to clean the smoke even more.

The compact system is operated via a pedal, which helps to use CO2 only when necessary, lowering costs, and, because the gas is cold, preventing patients from freezing on the inside.

Three insufflation modes are present that the device can operate in, which are constant flow, standard insufflation, and continuous pressure insufflation. The last is able to compensate for any leaks so that the CO2 entering the surgical scene comes in at the appropriate pressure to keep things clear.

There is also the low-pressure insufflation option that keeps pressure at no more than 7mmHg. The operator simply presses the power button to turn on the device and then selects the mode to start operation.

Reference:

Available at: https://www.medgadget.com/2020/07/eva15-surgical-insufflator-and-smoke-evacuator-for-minimally-invasive-procedures-fda-cleared.html. Accessed on 28-07-2020.