Fracture complications: "A vicious circle involving the whole patient"

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Infection is one of the most feared complications in trauma and polytrauma, giving origin to a complex, sometimes **high-risk vicious circle involving fractures, soft tissues, and surgical procedures that impact the whole patient.**

The two-day Trauma Masterclass took place in Verona in September, and brought together an excellent group of expert orthopedic and orthoplastic surgeons from 4 continents and 11 countries. These experts, who came to discuss trauma complications, propose evidence-based solutions, and share knowledge and good clinical practices.

The consequences of infection can be very serious for the patient, and quite expensive for the healthcare service. Septic and aseptic mal-union and non-union contribute towards a surprising increase in the percentage of complications (around 40%) regarding both the reconstruction and post reconstruction phase.

Faculty Chair, **Nando Ferreira** from Cape Town, South Africa shared that reconstructive surgery is a very tough job, which can sometimes make an orthopaedic surgeon feel very alone. **Prof. Ferreira** is the head of Trauma, Sepsis and Reconstruction department at the Tygerberg Hospital, Stellenbosch University: *"There is not one sole solution for all cases. Each case is unique, as unique as our patient. A cohesive team, well-trained and prepared, is able to guarantee the most appropriate treatment for the patient; a network of experts allows us to share complex cases and discuss controversial cases, learning from each other's experience and feeling less alone…"*

Infection can be limb-threatening or even life-threatening.

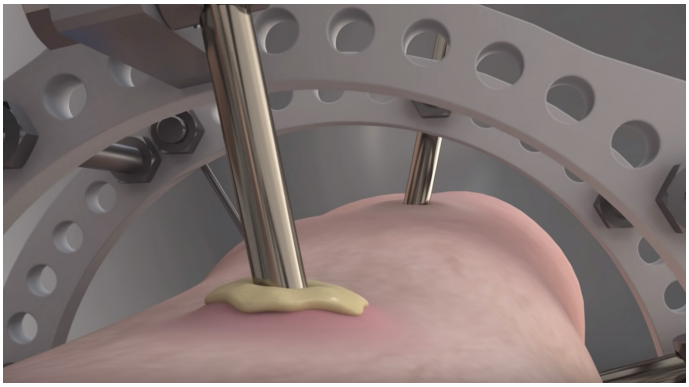
"Amputation may be a reconstructive solution, not a failure. Soft tissues are always one of the most critical factors, and in the presence of massive bone, soft tissue and muscle loss, the best option may be to amputate."
"However, an amputation should be never a single person's decision, but a team decision, also involving both patient and family. We should always consider the risk-to-benefit ratio before subjecting a patient to prolonged reconstruction, and the recent, amazing developments of prosthetics and technology applied to limb can make the decision less difficult for the patient, who aims to recover quickly and go back to an independent and mobile existence."

Thierry Bégué comes from Paris, France. He is the director of the Orthopaedic, Trauma and Reconstruction department at the Antoine-Béclerè University Hospital Paris-Sud.

He explained: *"The high risk combination of soft tissue, bone, vascular and nerve involvement makes complex extremity trauma management a process which requires a senior surgical experience, with the necessity of an early diagnosis, good decision making, and precise surgical technique".* According to **Prof. Bégué**, *"a combined ortho-plastic approach is an established parameter of good practice in extremity reconstruction."*

He concluded: *"**Bone transport is not an easy journey.** It requires taking one part of your skeletal structure and moving it to another part. Nevertheless, it is a reliable method for the reconstruction of bone defects, particularly in the femur and tibia, and remains a safe treatment for resection after bone infection."*
Pablo Corona comes from Spain. He is the head of UCSO

- Sepsis, Osteoarticular & Reconstructive Unit - at the University Hospital Vall d'Hebron in Barcelona, the biggest hub in Cataluña: *"When in the presence of an infection, radical debridement surgery is mandatory. We must not be afraid to extend the wounds along the fasciotomy line, resecting all contaminated soft tissue and devitalized bone."* He added: *"Before starting an antibiotic therapy, we should know the pathogens that have been forming the biofilm bacteria, which can be extremely virulent and multi-drug resistant, in order to be precise and targeted in our therapy."*



Regarding the method of fixation, **Dr. Corona** affirmed: *"Circular external fixation is one of the most effective tools for fixation, in the case of infected severe trauma and bone defects. These devices are usually minimally invasive and stable. External fixation allows **early weight bearing**, which is very important for the patient's full recovery."*

At the end of the educational meeting, all expert participants were extremely satisfied by the **high level of discussion**, the **significant number of complex case studies** that were presented, the **hands-on approach**, and the **international Faculty was outstanding**. Above all, the open dialogue and the friendly, easy atmosphere could lay the groundwork for long lasting professional relationships.