

## ORT 65

# EVALUATION OF JOINT BLEEDS USING PORTABLE ULTRASOUND AND ITS IMPACT ON TREATMENT OF PERSONS WITH HEMOPHILIA IN A RESOURCE LIMITED SETTING

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### Submission Group

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### Abstract

**BACKGROUND:** Hemophilia is a bleeding disorder that can adversely affect the joints of Persons With Hemophilia (PWH) if not appropriately managed. Recurrent bleeding into a joint causes synovial hyperplasia, chronic inflammation, fibrosis and haemosiderosis resulting in arthropathy. Timely infusion of Clotting Factor Concentrate (CFC) may help prevent this sequel. The joints frequently affected include the knee, ankle, and elbow as a result of direct trauma or spontaneous bleeding. Detailed evaluation of joint swelling may help distinguish acute and sub-acute bleeds from joint symptoms as a result of chronic arthropathy thus guiding appropriate treatment and improving both outcomes and conservation of resources. **OBJECTIVES:** To assess the impact of ultrasound evaluation of joint bleeds on the choice of treatment selected for PWH. **METHODOLOGY:** In April 2018, 5 patients who presented with self-reported symptoms of bleeding into their joints (increased pain, swelling or decreased range of motion) to Moi Teaching and Referral Hospital in Eldoret, Kenya had their joints assessed using a broadband linear array transducer connected to a monitor display. Of these patients reporting symptoms of an acute bleeding event; two had symptoms in the knee, two in the elbow, and one in the ankle. The initial plan from physician's physical examination assessment was to infuse all of them with CFC. After scanning them with the ultrasound probe it was revealed that one ankle, one knee, and one elbow did not have an effusion suggestive of an acute or subacute joint hemarthrosis and symptoms were consistent with exacerbation of pain associated with chronic arthropathy. For these cases conservative management was used rather than infusing CFC and they proceeded to full symptomatic improvement. **DISCUSSION:** Three out of five PWH proceeded to recovery from their self-reported symptoms of acute joint bleeding events without CFC infusion. It is likely that the clinical presentation mimicking an acute or a subacute joint bleed may have been pain from a joint with hemophilic arthropathy that is best managed by physiotherapy. The use of ultrasound to confirm presence or absence of an active bleeding event may assist in conserving factor for potential life-saving cases. This may also help in preventing misdiagnosis of chronic arthropathy in a patient with active bleeding. **CONCLUSION:** Assessment of joint bleeds using ultrasound has the potential to impact the administration of CFC to PWH with chronic arthropathy, and also to prevent missing an acute bleed. A study on a large number of PWH with joint pain and, swelling or decreased range of motion needs to be undertaken to demonstrate the relevance of ultrasound assessment of bleeds in PWH.