Introduction:
Due to the dynamic of critical care disease, a rapid bedside, non-invasive and highly sensitive and specific method is required for diagnosis. In this study we set out our experience with trancranial color-coded duplex ultrasound (DXT) [1]. The DXT study identifies cerebral arteries as well as hemorrhagic phenomenon, hydrocephalus, mass-occupying lesions and midline shift. This is the main difference between DXT and conventional Transcranial Doppler (DTC) which is a blind study and do not provide any image.

Methods:
Descriptive, cross-sectional and observational study from December 2018 to June 2019. 21 patients were included. Inclusion criteria: Neurocritical patients. Exclusion criteria: No acoustic window, presence of ultrasound artifacts. Data collection was performed. It was used a low-frequency transducer from 1.5-3.5 MHz with trancranial duplex preset (Figure). The patterns were defined as normal, vasospasm, high resistance, hyperemia and cerebral circulatory arrest, depending on the cerebral flow velocity, Lindegaard Ratio (LR) and Pulsatility Index (IP).

Results:
12 men (57.1%) and 9 women (42.9%). Average age 55.6(20-79). Patients diseases: Subarachnoid hemorrhage 6, traumatic brain injury 5, AV malformation 4, stroke 2, hemorrhagic cerebrovascular accident 2 and mass occupying lesions 2. Normal Pattern: 10 patients (rel. freq 0.47). Vasospasm: 5 patients (rel. freq 0.23). High resistance: 4 patients (rel. freq 0.19). Hyperemia: 1 patient (real. freq 0.04). Cerebral circulatory arrest: 1 patient (rel. freq 0.04)

Conclusion:
DXT should be part of the routine of neuromonitoring, it allows real time images especially useful in unstable conditions. Although it will be needed a large amount of patients to be statistical significant, DXT is useful considering a non invasive study, bedside and it allows early identification of different clinic conditions.

References:
1. Lau VI. Crit Ultrasound J 9:21, 2017