



# Hemodynamic assessment with CytoSorb® treatment in Lemierre's syndrome

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## Background

Lemierre's syndrome is a septic condition with frequent evolution to septic shock due to *Fusobacterium necrophorum*. A multimodal approach with proper diagnosis, early source control, antibiotics administration and hemodynamic support is mandatory for a better prognosis. Purification therapies are helpful to reduce the inflammatory syndrome improving the hemodynamic assessment.

## Methods

A 20 years old man was admitted to ICU for septic shock and Lemierre's syndrome. Continuous Renal Replacement (CRRT) with CytoSorb® cartridge begun from day 3 to day 7. Daily values of sepsis markers were collected.

Hemodynamic assessment was performed with norepinephrine and Argipressin synergic administration and continuous hemodynamic noninvasive monitoring methods.

The bedside measurement of the Power Doppler ultrasound assessment of the Resistance Index in different bilateral arterial districts -Renal Artery (ARE), Radial Artery (AR), Central Retinal Artery (ACR), Superior Mesenteric Artery (AMS)- was performed with linear and convex probes at the beginning of the administration of Norepinephrine (0.1 mcg / Kg / min) and Argipressin (0.3 IU / min) (T0), at 1h (T1), at 24h (T2) and 48h (T3)

## Results

Laboratory values improvement before and after CytoSorb® treatment (T0 and T5).

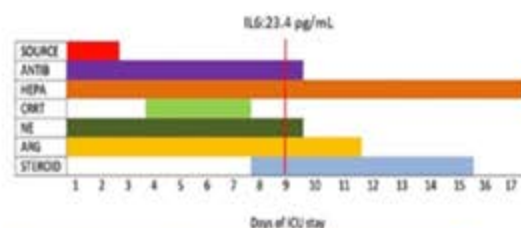
T0: Procalcitonin (29.47 ng/ml); Total Bilirubin (8.2 mg/dl); Interleukin 6 (168.3 pg/ml); Platelets (86000/mmc)

T5: Procalcitonin (3.5 ng/ml); Total bilirubin (5.8 mg/dl); Interleukin 6 (23.4 pg/ml); Platelets (294000/mmc).

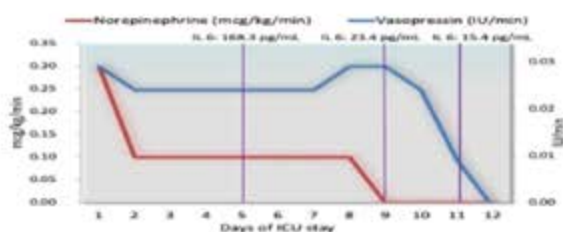
Reduction of the Resistance Index measured in different arterial districts at Day 0 (T0) and at Day 2 (T3):

T0: ACR DX 0.92; ACR SN 0.90; AR SN 1.14; ARE DX 0.66; ARE SN 0.71; AMS 0.69

T3: ACR DX 0.82; ACR SN 0.83; AR SN 1.04; ARE DX 0.65; ARE SIN 0.67; AMS 0.65.



	ACR DX/SN	AR SN	ARE DX/SN	AMS
T0	0.92/0.90	1.14	0.66/0.71	0.69
T1	0.90/0.88	1.13	0.67/0.71	0.71
T2	0.86/0.85	1.08	0.64/0.69	0.67
T3	0.82/0.83	1.04	0.65/0.67	0.65



## Conclusion

In Lemierre's syndrome the hemadsorption CytoSorb® in combination with CRRT is effective to reduce pro inflammatory cytokines and total bilirubin values improving hemodynamic as assessed by monitoring Arterial Resistance Index in different districts.

## Bibliography

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