Kappa coefficient of 0,32. The ultrasonography was also able to detect other relevant, macroscopic findings, like space occupying liver lesions or ischemic lesions.

Table 1.

	MILD STEATOSIS n	MODERATE STEATOSIS n	SEVERE STEATOSIS n
ULTRASONOGRAPHY	13	19	0
BIOPSY	49	12	14
KAPPA	0,02	0,02	<0,01

Conclusion: In our study, hepatic steatosis evaluated by abdominal ultrasound presented very low concordance rate with anatomopathological findings. Abdominal ultrasound results a very helpful tool to evaluate incidental structural injuries, though these could be uncommon findings. The use of newer quantitative ultrasound-based imaging techniques, which also are less operator dependent than traditional ultrasound, could improve the ability of ultrasound to detect and quantify hepatic steatosis and emerge as a solution to our concern.

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000564

Epidemiology and outcome of infective endocarditis in ICU patients: preliminary results of a multi-centre prospective study (EPENDICUS)

K. Arvaniti[1]; M. Bassetti[2]; G. Poulakou[3]; S. Abid[4]; M. Papanikolaou[5]; M. Peghin[6]; I. Karaiskos[7]; S. Dimopoulos[8]; P. Sotiriou[1]; M. Lukic[9]; F. Ampatzidou[10]; G. Papapathanakos[11]; K. Tsakalis[12]; N. Stamatiadis[13]; EK. Dindar-Demiray[14]; MS. Sayar[15]; D. Lathyris[16]; G. Dimopoulos[17]; JF. Timsit[4]; M. Wolff[4]

[1]ICU, Papageorgiou General Hospital, Thessaloniki, Greece; [2]Infectious diseases clinic, san martino univesrity hospital of genoa, Infectious diseases clinic, Genoa, Italy; [3]Third department of medicine, national and kapodistrian university of athens, school of medicine, Athens, Greece; [4]Medical and infectious diseases icu, Bichat-Claude Bernard Hospital, Paris, France; [5]Icu, Hippocrateion General Hospital of Athens, Athens, Greece; [6]Infectious diseases division, department of medicine, University of Udine and Azienda Sanitaria Universitaria Integrata di Udine, Udine, Italy; [7]First department of internal medicine-infectious diseases, Hygeia General Hospital, Athens, Greece; [8]Icu, Onassis Cardiac Surgery Center, Kallithea, Greece; [9]Department of infectious diseases, University Medical Centre Ljubljana, Ljubljana, Slovenia; [10]Cardiac surgery icu, General Hospital of Thessaloniki "George Papanikolaou", Thessaloniki, Greece; [11]Icu, University Hospital of Ioannina, Neochoropoulo, Greece; [12]Icu, Laikon General Hospital of Athens, Athens, Greece; [13]Coronary icu, Papageorgiou General Hospital, Thessaloniki, Greece; [14]Icu, Celal Bayar University Hafsa Sultan Hospital, Manisa, Turkey; [15]Icu, Van training and education hospital, Van, Turkey; [16]Icu, G. Gennimatas Hospital, Thessaloniki, Greece; [17]Icu, Attikon University Hospital, Chaidari, Greece

Correspondence: K. Arvaniti

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Introduction: Infective endocarditis (IE) is associated with considerable morbidity and mortality despite advances in diagnostic and therapeutic modalities.

Objectives: We sought to explore the epidemiology of IE in ICU patients with emphasis on severity, causes, management and outcome.

Methods: Preliminary analysis of EPENDICUS study (EPidemiology and outcome of ENDocarditis in ICU patientS: a multi-centre prospective epidemiological study on infectious endocarditis in ICU patients). Patients with a diagnosis of IE and ICU admission were included. Data were collected between December 2018 and April 2020. Of the collected data, demographics, comorbidities, community or healthcare-onset, severity assessment on ICU admission, complications, surgical approach and ICU outcome were available for preliminary analysis. Continuous data are reported as median and interquartile range and categorical data as percentages.

Results: 73 patients were enrolled from 16 centers; median age 69 (IQR, 59-78), 69% male, 74% had at least one comorbidity, 49% presented valvular disease, 10% had a history of previous endocarditis, 7% were intravenous drug users. Median SAPS and SOFA on ICU admission were 52 (IQR, 45-64) and 9 (IQR, 5.25-11.75), respectively. Sepsis/septic shock and cardiac failure were recorded in 43% and 28% of the patients, respectively. Mechanical ventilation was performed in 67% of the patients. IE was healthcare-associated in 26% cases (63% of them were vascular catheter- or prosthetic device-associated). A native valve was involved in 60% of the cases (aortic in 56%, mitral in 28% of the cases). Embolic complications were observed in 18% of the patients (cerebrovascular in 46% of them). The predominant (52%) pathogens were Staphylococci (*Staphylococcus aureus* in 61% of them), *Enterococcus spp*. in 16%, *Streptococcus spp*. in 10%. Surgery was performed in 56% patients (emergency/urgent in 33% patients). ICU mortality was 29%.

Conclusion: The preliminary descriptive analysis of EPENDICUS showed that IE cases present important severity on ICU admission including sepsis and septic or cardiogenic shock. IE in the ICU setting is associated with comorbidities and underlying valvular disease in the majority of the cases. A considerable number of the cases were healthcare-onset and device-associated while the predominant pathogens were Staphylococci. Surgery was performed in the majority of the patients. Enrollment and further analysis are actually ongoing.

000600

Practice of ICP monitoring in acute brain-injured patients: results from the Synapse-ICU study

F. Elli[1]; C. Bonetti[1]; F. Graziano[1]; G. Isernia[1]; G. Palio[2]; C. Robba[3]; P. Rebora[1]; S. Galimberti[1]; A. Vargiolu[4]; G. Citerio[1]

[1]School of medicine and surgery, University of Milano-Bicocca, Milan, Italy; [2]Department of intensive care, Clinica Santa Isabel, Universidad de Buenos Aires, Buenos Aires, Argentina;[3]Department of anesthesia and intensive care, San Martino Policlinico Hospital, IRRCS for Oncology, Genova, Italy; [4]Neurointensive care, department of emergency and intensive care, Ospedale San Gerardo di Monza, Monza, Italy

Correspondence: C. Bonetti

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Introduction: Increased intracranial pressure (ICP) is one of the major clinical complications of acute brain injuries (ABIs) and it is associated with poor outcome. ICP monitoring (ICPm) is considered the standard of care for the management of patients with intracranial hypertension, even if the procedure is not risk-free, and complications may occur. The indications for ICPm are mostly based on traumatic brain injury (TBI), whereas uncertainties remain for ICPm in non-TBI (subarachnoid haemorrhage (SAH) and intracerebral haemorrhage (ICH)).

Objectives: The main objective of the study is to describe the current practice of ICPm using a worldwide sample. Aim is to quantify practice variations in ICPm in TBI and non-TBI patients.

Methods: The SYNAPSE-ICU is an international, prospective, observational, cohort study (NCT03257904) including patients in coma after acute traumatic and non-traumatic brain damage admitted to the ICU. From March 2018 to June 2019, all patients fulfilling the following inclusion criteria were recruited: age > 18 years; ABI due to primary haemorrhagic stroke or TBI; Glasgow Coma Score (GCS) with Eyes score (E) = 1 and Motor score (M) $\leq$5 at ICU admission or within the first 48 hours. Data regarding the practice of ICPm insertion in both TBI and non-TBI patients was collected.

Results: 2504 patients were enrolled in the study (54.3% TBI, 21.7% SAH, 24% ICH), and 1358 (54%) of them received an ICPm during ICU stay (53.6% of TBI, 63.3% of SAH and 47.5% of ICH).

The most common reason for ICPm was clinical indication (n = 948, 70.1%), followed by radiology-anatomy of injury (n = 213, 15.7%),

neuroworsening (n = 152, 11.2%), with no significant differences among primary diagnosis. Considering the type of device, in most TBI patients (n = 144, 72.3%) an intraparenchymal catheter was inserted, whereas in SAH and ICH patients DVE was the most frequently used (in n = 179, 53.8% and n = 151, 54.5% of patients, respectively).
In the majority of patients, the catheter was inserted in operating room (61.9%). Alternatively, the insertion was performed in ICU (26.9%) or in emergency department (5.5%). The procedure was performed by neurosurgeons in more than 90% of cases, rarely by intensivists (2.3%) or other medical specialists (0.7%).
The mean length of ICPm was 8.7 days (standard deviation, SD = 16.9) in TBI, 14.6 days (SD = 10.7)in SAH and 10.4 days in ICH patients (SD = 8.6).
During ICU stay, the catheter was changed in 366 patients (14.1%) due to fault or break (25.5%), neurosurgery procedures (22.9%), catheter displacement (19.8%) or accidental removal (15.1%), site infection (4.2%) and other reasons (12.5%) including insertion of another device, clinical worsening and hydrocephalus. The catheter has been changed, on average, after 5 days from the insertion.
Conclusion: A great variability regarding ICPm practice was observed. The results stress the need of evidence-based recommendation regarding ICPm worldwide.

Reference(s) and grant ackowledgment(s)
1. The study received an award from the ESICM, and it is inserted in the ESICM research portfolio.

000603

Sepsis-induced Myopathy features a distinct proteomic and metabolomic signature

B. Duceau[1]; M. Blatzer[1]; L. Duarte[1]; P. Rocheteau[1]; T. Lescot[2]; O. Langeron[3]; J. Bardon[3]; F. Chrétien[1]; A. Bouglé[4]
[1]Experimental neuropathology unit, Institut Pasteur, Paris, France; [2]Surgical intensive care unit, Hospital Saint-Antoine, Paris, France; [3]Anesthesiology and intensive care, Hôpital Henri-Mondor AP-HP, Avenue du Maréchal de Lattre de Tassigny, Créteil, France, Créteil, France; [4]Paris, Pitié-Salpêtrière Hospital, ICAN, Paris, France
Correspondence: B. Duceau
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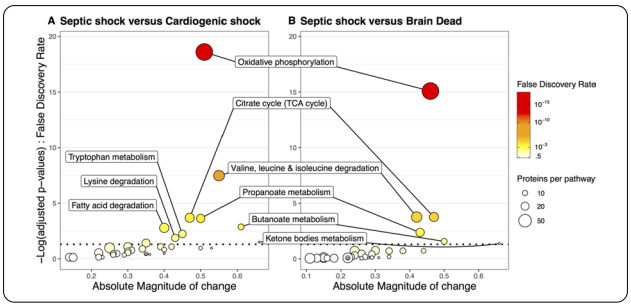
Introduction: Mechanistic studies of sepsis-induced myopathy are rare because of their complexity, both ethical and practical. Proteomics and metabolomics are high throughput technologies that aim to identify and quantify proteins and metabolites at a large scale. The analysis of protein and pathways that are involved at the cellular level, combined with metabolomic analysis of these pathway intermediates, could unravel innovative therapeutic strategies regarding muscle dysfunction in sepsis.
Objectives: We aimed to investigate the sepsis-induced myopathy mechanisms with integrative and cutting-edge technologies.
Methods: We conducted a prospective study in three French Intensive Care Units. Muscle biopsies (*vastus lateralis* or *rectus abdominis*) were collected from 3 groups of patients: Septic Shock ("SS" group, n = 24), Cardiogenic Shock ("CS" group, n = 25) and Brain Dead ("BD" group, n = 18). The proteins/metabolites were extracted from muscle samples, then analyzed by High-Performance Liquid Chromatography-coupled to tandem Mass Spectrometry. We used enrichment analyses (differential analyses between two groups) to identify the impact of cellular pathways in muscle tissue during septic shock.
Results: Characteristics of the patients are detailed in Table 1. Proteomic and metabolomic analyses allowed the identification of 2426 proteins and 259 metabolites respectively. Despite the fact that biopsies were obtained from different muscle groups, proteomic analysis did not show any difference in the proportion of muscle fiber types. Auto-clustering methods (principal component analysis, hierarchical clustering) clearly differentiated the three groups, meaning that SS patients could be well discriminated using the proteomic and metabolomic datasets. Enrichment analysis was performed on the proteomic dataset (Figure 1). Each data point represents a biological pathway in the SS group, taking into account its significance (adjusted p-value, y-axis, logarithmic scale) and its magnitude of change (x-axis) compared to the CS group (Figure 1A) or the BD group (Figure 1B). The dotted line represents the threshold for adjusted p-value significance. The most strongly negatively impacted pathways (adjusted p-value < 0.05) were observed in the SS group: Oxidative phosphorylation; Valine, leucine and isoleucine degradation; Citrate cycle; Propanoate metabolism; Butanoate metabolism; and Beta-oxidation. Moreover, numerous key mitochondrial transporters, e.g. proteins that shuttle metabolites across the mitochondrial membranes, were no longer detected in the SS group. In the metabolomic dataset, fatty acid biosynthesis was the only up-regulated pathway in the SS group. Finally, consistent data in the proteomic and metabolomic datasets showed that anti-oxidant mechanisms have been surpassed: we observed increased polyamine and depletion of reduced glutathione (metabolomic dataset), decreased glutaredoxin, mitochondrial thioredoxin and peroxiredoxin ezymes (proteomic dataset).



	SS (n=24)	CS (n=18)	BD (n=25)
Age, yr	62±9	56±11	66±16
Male sex, n (%)	13 (54.2)	15 (83.3)	16 (64.0)
SAPSII score	45±14	42±15	60±14
Antibiotic use, n (%)	24 (100)	6 (33)	5 (20)
Vasopressor use, n (%)	24 (100)	18 (100)	21 (84)
Median delay between admission and biopsy (IQR)	2 (1; 4)	2 (0.5; 6.5)	3 (2; 4)
Median ICU length of stay (IQR)	9 (5; 22)	17 (8; 37)	3 (2; 4)
Median number of days of ventilation (IQR)	3 (2; 5)	4 (2; 15)	3 (2; 4)
Hospital mortality, n (%)	8 (42)	8 (62)	25 (100)

Conclusion: Our data provide a detailed and integrated in depth overview of proteins and metabolic analysis, of the pathogenesis of sepsis-induced myopathy in ICU patients. Interestingly, the mitochondrial response is not as impaired in major inflammatory processes without sepsis (brain death) or processes combining inflammation and hypoperfusion without sepsis (cardiogenic shock) as it is during sepsis.

Reference(s) and grant ackowledgment(s)
1. Institut Pasteur, Paris & Direction de la Recherche Clinique et de l'Innovation, Assistance Publique – Hôpitaux de Paris

000607

Dysregulated expression of the b2-adrenergic receptor insepsis

A. Kleyman[1]; A. Cesar[1]; G. Stanzami[1]; N. Arulkumaran[1]; W. Khaliq[2]; DT. Andreis[1]; B. Bollen Pinto[3]; M. Waugh[1]; M. Singer[1]
[1]University college london, Bloomsbury Institute of Intensive Care Medicine, London, United Kingdom; [2]Intensive care unit, University Hospital Lewisham, London, United Kingdom; [3]Anesthesiology, Hôpitaux Universitaires de Genève (HUG), Genève, Switzerland
Correspondence: A. Kleyman
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Introduction: Catecholamine hypo-responsiveness is a hallmark of sepsis, but its pathogenesis remains elusive. The adrenergic pathway, from catecholamine binding to the adrenergic receptor (AR) to the final physiological effect is a multistep process. Knowledge about protein expression and localisation of different constituents of the