

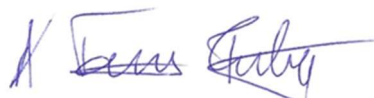
To whom it may concern

Hip fracture is a common pathology which affects around 2 billion elderly individuals worldwide. This acute event has devastating consequences both in terms of survival (30% one-year mortality) and of quality of life (functional decline and loss of autonomy). The projected rise of the population above 65 years of age, along with increased human life expectancy has implications for health strategy and resource allocation.

It has been shown that hip fracture management in a dedicated orthogeriatric unit improves elderly patient prognosis (long term mortality and walking ability) compared to standard care. Unfortunately, despite of the development of these kinds of units, there is not enough places for all elderly patients suffering from hip fracture. Patients which will benefit most from these units need to be selected by emergency physicians and/or geriatricians. Today, clinical decision-making of admission is supported by several clinical criteria (comorbidities, frailty, severity etc...) but is void of objective information (no predictive signatures) on resilience post hip fracture surgery. As consequence, there is a high variability in the triage process among health care professionals. In this context, prognosis biomarkers would have an important role to guide clinicians and to limit these variations. Neopterin, a biomarker of inflammation and immune system activation, has been associated with one-year mortality in hip fracture. In view of this result, neopterin could be a good prognostic biomarker to help clinicians in the triage process of elderly patient to admit them to dedicated orthogeriatric units. This would be particularly relevant with the potential development of a digital stick assay that could be implemented at bedside in the emergency department: this kit will constitute a useful tool to improve patients' reference, and thus cost-effectiveness, by directing high risk patients to specific orthogeriatrics departments.

Delphine Sauce, coordinator of this project, is a dynamic immunologist focusing her research on human aging. She is used to perform state-of-the-art translational research. For this program, she will lead a highly qualified consortium with internationally recognized experts in geriatrics who will join forces to optimize patients care. In this respect, the present project will benefit from the multidisciplinary expertise of the different partners involved in collecting clinical, biological and immunological datasets.

As a geriatrician confronted with this type of situation every day, I can only lend my unwavering support to such initiatives. This innovative research program should address a problem for which clinicians are presently lacking solutions. This consortium offers the unique opportunity to validate a previously identified biomarker in order to improve the care of elderly patients in acute situations. The development and implementation of a clinical kit accessible at the hospital level will be an undeniable asset in the optimization of the care circuit initially dedicated to orthogeriatrics and, which could probably be extended to other critical situations (ICU, sepsis...) I will monitor the progress of this program with interest, wishing all the necessary success.



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March 15th, 2019-03-13

Kind attention of

EIT - Health European Institute of Innovation and Technology

To whom it may concern

Support letter to the project:

*"Cohort study on neopterin as a marker of one-year mortality risk
in older people with hip fracture"*

led by D. Sauce, MD PhD, INSERM U1135, Sorbonne University, Paris

I contact your organization in support proposal for a grant to fund the project study mentioned above, which I consider, in the light of the current state of the art on geriatric care and in accordance with my professional experience in the field of perioperative geriatric medicine, an important one.

The study is aimed to improve the care of older people with hip fracture through careful selection of patients at higher risk of mortality and their subsequent relocation to orthogeriatric units, that have been shown to reduce mortality and complication rate in a cost-effective way.

In the dramatic current scenario, where hip fracture represents a daily growing epidemics worldwide and an increasing source of disability among older people, offering the best care available to the most vulnerable and frail of them is an effective way to improve the outcome and reduce the cost at the same time.

The research team is highly reputed at national and international level. I personally met the AP-HP Unit Director, professor J. Boddaert - who certainly doesn't need to be introduced by me - during the JEPU congresses in Paris, where he significantly contributed in building a common culture in geriatric medicine, to be shared by anaesthesiologists and geriatricians. Years later, I was pleased to enrol him and some of his collaborators who are members of the research team of the present project in the writing of the textbook "Perioperative care of the elderly: clinical and organizational aspects", published in 2018 by Cambridge University Press, of which I am the editor. Their contribution added significant worth to this book.

Together with the scientific value of the project *"Cohort study on neopterin as a marker of one-year mortality risk in older people with hip fracture"* and the skills of the researchers involved in it, I recall your attention also on the importance of the research under the social point of view: for an international community in which every day more and more grey-haired - the so-called "silver tsunami" - are under threaten of frailty, disability and poor quality of life, studies like this, focused on the massive need to improve the quality of care in an almost neglected field such as geriatric surgery is, are of pivotal importance.

Hoping the research will be generously funded, sincerely

Gabriella Bettelli MD, MSc



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To whom it may concerns,

The management of fractures of the upper extremity of the femur is a major public health problem that affects more and more patients given the aging of the population. The optimization of anesthetic strategy is multimodal and complex. It requires resources and medical availability that is not always easy to implement. The same observation can be made on the geriatric postoperative management of these patients, but the impact of this one on morbidity and mortality is nevertheless demonstrated. In this context, it is essential, in a pragmatic way, to identify the patients most likely to benefit from a specific and optimized strategy of care. The geriatric care unit of the Pitié Salpêtrière hospital and the INSERM U1135 research unit associated in the Hospital-University department FAST (Fighting Aging and Stress) have recently demonstrated in a preliminary study that plasmatc neopterin levels, a molecule released by IFN- γ -activated macrophages, is predictive of mortality in patients with hip fractures. This approach (ie the measure of neopterin in the emergency department) is particularly interesting because it opens up perspectives for selecting patients, alongside clinical fragility criteria, for whom a particular management is imperative because of their prognosis. We strongly support their joint project with the University of Copenhagen / Bispebjerg Hospital to create a large prospective European cohort to validate the prognosis interest of neopterin measurement in these patients. The impact of this research on the management of patients seems potentially very important.



Pr Serge MOLLIEUX

Member of the editorial board of Guidelines from the French National Society of Anesthesia and Critical Care Medicine (SFAR) concerning the Management Strategy of Hip Fractures in Elderly
Coordinator and principal investigator of the Opti-aged study: Influence of a Multi-parametric Optimization Strategy for General Anesthesia on Postoperative Morbidity and Mortality in Elderly Patients (NCT 02668250)
French coordinator of the European POSE Study (Peri-interventional Outcome Study in the Elderly) (<https://pose-trial.org/>)
Previous President of Anesthesia-Critical Care and Perioperative Medicine section of the National University Council
Head of Anesthesia and Critical Care Department of University Hospital of Saint-Etienne, University of Lyon



21st of March 2019, Paris

Support letter for HIPAGE EIT project

The SFGG has taken note of the EIT project. This project is based on a biomarker, neopterin, whose plasma level measured at the time of arrival at the hospital enables to predict one-year mortality after a hip fracture.

The objectives are to confirm the prognostic value of this biomarker in hip fracture at European level and to develop an "easy-kit", available in the emergency department before surgery, in order to quickly measure the neopterin concentration from a drop of blood, at patient bedside.

This measure should improve the selective triage of patients by referring high-risk patients to a specific orthogeriatric ward that has proven to be an appropriate and cost-effective health solution.

Finally, a medico-economic study will be conducted to demonstrate the benefits of adapted care in orthogeriatrics from a clinical as well as an economical point of view.

For all these reasons, the SFGG supports this project, which strives to develop appropriate care of elderly people with a fractured femoral neck.

Dr Jean-Pierre AQUINO
Délégué Général SFGG



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