



Original Article

# How to rationalize preoperative tests? A method to implement local guidelines successfully

Stéphanie Suria<sup>\*</sup>, Hakim Harkouk, Alexandre Eghiaian, Grégoire Weil

Service d'anesthésie, Gustave-Roussy Cancer Campus, 94805 Villejuif, France

ARTICLE INFO

Article history:  
Available online xxx

Keywords:  
Anaesthesia audit  
Pre-anaesthesia assessment  
Audit

ABSTRACT

**Background:** Preoperative screening includes clinical examination and tests. Systematic prescription leads to excessive tests. We conducted an observational retrospective study to assess the success of implementing a protocol-guided prescription procedure for preoperative tests (PTs). We compared the number of PTs prescribed for scheduled surgery before and after the implementation of local guidelines with a specific method.

**Methods:** Local guidelines for prescribing PTs based on the French Society of Anaesthesia's recommendations were developed, validated by the anaesthesia team and actively implemented. The implementation procedure was complex and based on the application of sociologic concepts to facilitate PT prescriptions in accordance with the protocol. All PTs (except for children and emergency surgeries) prescribed over a one-week observation period were analysed before and after protocol implementation, respectively in 2011 and 2013.

**Results:** Two hundred and ninety-two patient files were analysed: 157 in 2011 and 135 in 2013. Ninety-one percent of the prescriptions were in accordance with the recommendations in 2013. Excessive prescribing decreased significantly after the implementation of recommendations (7.1% versus 20.7%,  $P < 0.0001$ ), enabling us to reduce excess costs.

**Conclusion:** We observed excellent adherence to the prescription protocol for PTs. The method used to implement the protocol was successful. A future evaluation should be undertaken to confirm these results over the long-term.

© 2015 Société française d'anesthésie et de réanimation (Sfar). Published by Elsevier Masson SAS. All rights reserved.

## 1. Introduction

The goal of preoperative clinical and biological tests is to reduce the risks associated with anaesthesia and surgery. According to the French Society of Anaesthesia and Intensive Care Medicine (Sfar), the objectives of preoperative tests (PTs) are:

- to serve as a reference for assessing postoperative changes, prerequisites for the treatment of potential complications;
- to formulate the basis of a risk assessment by means of their independent predictive value for postoperative complications;

- to diagnose a disease or condition not suspected during the patient interview and/or clinical examination that may require preoperative treatment or a change in anaesthetic or interventional strategies." [1,2].

PTs should not be systematically prescribed, but adapted to clinical signs and anamnestic data [1,3–5].

Most of the time, anaesthetists systematically prescribe PTs. Excessive prescribing of PTs has been described for many years [1,6,7] and 60% of the PTs could have been eliminated without affecting perioperative management [8]. Clinicians have developed a rationalization process for the prescription of PTs in order to limit excessive tests. Establishing rationalization guidelines does not guarantee the proper application of the protocol, as shown by the results of the audit conducted in 2008 in a French University Hospital [9]. That audit study compared PTs before and after the implementation of local recommendations and did not show any

<sup>\*</sup> Corresponding author.

E-mail addresses: [stephanie.suria@gustaveroussy.fr](mailto:stephanie.suria@gustaveroussy.fr) (S. Suria), [hakimharkouk@hotmail.fr](mailto:hakimharkouk@hotmail.fr) (H. Harkouk), [alexandre.eghiaian@gustaveroussy.fr](mailto:alexandre.eghiaian@gustaveroussy.fr) (A. Eghiaian), [gregoire.weil@gustaveroussy.fr](mailto:gregoire.weil@gustaveroussy.fr) (G. Weil).

<http://dx.doi.org/10.1016/j.accpm.2015.10.004>

2352-5568/© 2015 Société française d'anesthésie et de réanimation (Sfar). Published by Elsevier Masson SAS. All rights reserved.

improvement in test prescriptions [9]. Although many studies have demonstrated the uselessness and the excess costs generated by systematic tests, most of the time anaesthetists failed to limit their prescriptions [1,10,11].

In this context, the Sfar edited Expert Formalized Recommendations in 2012 defining the indications for PTs according to patient and surgical risks [12].

Our aim was to assess the implementation of a local protocol for prescribing PTs based on these recommendations. We defined a pragmatic method for implementing the protocol. We carried out an audit before and after the initiation of the protocol to assess the prescription of PTs for scheduled surgeries. Secondly, we assessed the effect of protocol implementation on the excess costs associated with the excessive prescription of tests.

## 2. Materials and methods

All patients signed an informed consent for the retrospective analysis of medical data when they registered for the first time at the institute.

We developed local guidelines for prescribing PTs based on the national recommendations edited in 2012 [12]. Our recommendations concerned surgical risks only. Clinicians could prescribe

blood tests adapted to the patient's medical history. French recommendations were adapted to our local surgical specificities.

We followed the existing guidelines for the optimal implementation of protocols in health service [13,14] (Table 1). A workflow was elaborated for the conception, dissemination and application of the protocol. A leader was appointed to elaborate a protocol based on the recent national recommendations and data in the literature. Biological tests (blood cell counts, electrolytes, renal and coagulation tests) and an electrocardiogram were included in the protocol. Liver tests were recommended before hepatic surgical or radiological procedures and hyperthermic intraperitoneal chemotherapy (which is a routine surgery in our institute) for establishing a preoperative reference.

Our aim was to build a prescription system that could be easily applied in practice. In 2011, the prescription process was computerized, but we still had to individually prescribe each test without protocol guidance. In 2013, we created four "PT prescription" groups (Table 2) adapted to our local surgical specificities and each surgery was attributed to one such group. For example, minor surgery, such as for breast cancer, did not require any PTs for patients without comorbidities. Conversely, major abdominal surgery with a liver resection for cancer required group 4 PTs (electrolytes, blood count and renal, hepatic and coagulation

**Table 1**  
Local application of the guidelines to optimally implement a protocol in the health service.

Attribute	Definition	In our study
Relative advantages or benefits	The perception of whether the innovation is better than the practice it will replace	Computerized prescriptions were easier
Compatibility	The perception of whether the innovation is consistent with the values and beliefs of the setting (culture). "Will this fit with my beliefs about dealing with this issue?"	Protocol was based on the national recommendations of experts and the analysis of the data of the literature.
Evidence-based	Recommendations based on research evidence are more likely to be followed	Opposition to the recommendations was due to medical-legal concerns. Specific educational measures were necessary to obtain the agreement of the team
Controversy	Non-controversial recommendations are more likely to be followed	
Clarity	Specific and precise recommendations are more likely to be followed	Every surgery was referenced in the protocol
Attitudes and opinions	Individuals may have varying attitudes and opinions about the innovation itself, or about changing existing practices	The members of our unit were used to apply new protocols, implementation was made after the agreement of all the clinicians
Organizational Resources	Facilities, space, materials, technology, staffing, and work design adequacy in the organization can influence implementation	The protocol was created and implemented thanks to an interaction between the biology department and the direction of information systems for the modification of the software of prescription of PT
Implementation	Educational outreach program and reminders	Meetings were organized to inform the clinicians and the new residents. Stickers and reminders were diffused
Observability	The degree to which the outcome of the innovation is visible	The audit was envisaged one year after the implementation of the protocol.
Audit and feedback	Encouraging ongoing success in implementation. This is achieved by summarizing the performance over a specific time period	We communicated the excellent results of the audit to the clinicians

According to [13,14].

**Table 2**  
Computerized protocol for the prescription of PT.

Group	Tests included	Surgery
0		Minor surgery: hernia, simple coelioscopy, superficial surgery, adenectomy, ENT and digestive endoscopy, superficial parotidectomy, minor oral surgery, breast, dermatologic and plastic surgery...
1	Electrolytes, urea, creatinine	Renal radiologic procedure and iodinated contrast injection
2	Group 1 + blood count	Intermediate surgery: gastrectomy, colectomy, proctectomy, hysterectomy, complex coelioscopy, laryngectomy, pharyngectomy, pharyngolaryngectomy, maxillectomy, isolated limb perfusion, free flap surgery...
3	Group 2 + coagulation tests	Major surgery: pancreatic surgery, oesophagectomy, ovarian cancer cytoreductive surgery, retroperitoneal sarcoma surgery...
4	Group 3 + hepatic tests	Major abdominal and liver surgery, liver radiological procedure, Hyperthermic intraperitoneal chemotherapy

Each group of PT contains a number of biological tests. During the anesthesia consultation, clinicians simply have to click on the number of the adequate protocol group. The different tests in the group are then automatically prescribed.

Download English Version:

<https://daneshyari.com/en/article/10163635>

Download Persian Version:

<https://daneshyari.com/article/10163635>

[Daneshyari.com](https://daneshyari.com)