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Guidelines for Safety in Veterinary Anaesthesia: Enclosure 3

Recommendations for pre-anaesthetic examination in patients undergoing elective surgery or diagnostic procedures.

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INTRODUCTION

As for the drafting of this first edition of the ISVRA document concerning recommendations for pre-anaesthetic examination in patients undergoing elective surgery and diagnostic procedures, our Workgroup on Safety in Veterinary Anaesthesia has been prompted by SIAARTI Recommendations, which are in turn a re-elaboration of a solid work of critical revision of the existing literature on the subject recently done by the American Society of Anaesthesiologists (ASA) (1). Other sources have been the slightly older works from French, Belgian, Scandinavian and German Scientific Societies, and from some private institutions (2-8). To reach their purpose, ASA appointed a specific Commission (called Task Force) chosen from among its members, which has reviewed more than 900 original studies on the subject, employing explicit and assessable methods of revision. An analysis of all this literature has highlighted the lack of an adequate number of randomized clinical studies which could produce unambiguous indications on how much pre-anaesthetic surveys may influence the outcome of an anaesthetic. Therefore, ASA Task Force has produced a list of suggestions, mainly based on observational studies and on the consent obtained from various sources: these suggestions represent the Task Force's opinions, the knowledge of 140 expert consultants on pre-anaesthetic examination and the opinion of 360 ASA members (which means 1% of their members). The issues of this survey have been subsequently submitted to further critical appraisal during three important national congresses.
The topicality of the subject has stimulated similar initiatives in Italy and in other European countries. The VRQ Office of Ospedale Niguarda in Milano(5), as well as similar French, Scandinavian and Spanish agencies (6-8), has appointed a multidisciplinary commission with the aim of organizing a so-

called 'consensus conference' to evaluate the real influence laboratory tests and other instrumental investigations have on the results of anaesthesiological procedures for a patient undergoing elective treatment. To some extent, these studies also lack randomized, checked, well organized clinical surveys and are not always based on sufficiently large numbers of patients. These are not sufficient for an anaesthetist to formulate precise suggestions.
In this document, the evaluation of scientific evidence drawn from an analysis of the literature on the subject is based on the classification made by a specific ASA Commission(1).
Evidence in the existing literature of a relationship between a certain variable (i.e. case history, complete blood cell count, chest x-ray) and the outcome of the anaesthetic procedure will be expressed here in the following terms:

- **Sufficient**: the existence is confirmed by randomized, controlled, well organized studies on the subject, and using satisfactorily large groups of patients, which confirm the relationship;
- **Insufficient**: the number of existing works on the relationship is too small;
- **Inconclusive**: there are studies which investigate the relationship, but they lack scientific rigour;
- **Absent**: no studies could be found on the subject.

In the absence of evidence supported by optimized quality studies, neither in human nor in veterinary practice, ISVRA Workgroup for Safety in Veterinary Anaesthesia has thought it is necessary to suggest their own recommendations, which have to take into account the specificity of veterinary practices. This specificity should discourage a strict application of the guidelines in totally different contexts.
The present paper received approval from ISVRA Board of Directors before its publication.
The suggestions contained here have been made by ISVRA members for exclusive use of colleagues who perform anaesthesia; they should not be regarded as absolute standards but could be adapted to particular clinical and/or organizational situations. Here below you will find the development of the classification of ASA functional classes.
The document will be soon integrated with chapters devoted to pre-anaesthetic diagnostic surveys and to legal aspects (these chapters are being thoroughly reviewed at the moment). It will be subject to periodic reviewing, to keep it up to date with medical and technological developments in our discipline; it will also be integrated with future Italian legislation.
If the proposed suggestions should widely differ from personal clinical and organizational practice, we would like to underline the importance of a gradual application of those.

1. DEFINITIONS

1.1 By the term '**anaesthetist**' or '**anaesthesiologist**' we mean a veterinary surgeon who is a recognized specialist by a relevant College (the only one who can be called 'specialist in veterinary anaesthesia'), or the veterinary surgeon who normally fulfils clinical activities as an anaesthetist (in this case they may be considered entitled by 'skills and knowledge' and not by qualification).

1.2 The expression '**pre-anaesthetic examination**' means the process of clinical investigation and organizational prediction which precedes any anaesthesia.
These procedures, along with anaesthetic acts, may lead to alteration of the functionality of an organ: hence, an assessment of the patient's initial conditions (initial clinical examination), also through laboratory and/or instrumental tests, is important. The anaesthetist will decide on the appropriate tests to be carried out case by case, to discriminate pre-existing alterations from possibly induced ones. A different matter is risk assessment, for which the patient's basic condition is to be balanced with the level of the scheduled procedure and with the kind of required anaesthesia.

1.3 **Pre-anaesthetic examination** is a **medical deed**, carried out by an **anaesthetist**, which also includes the planning of possible diagnostic surveys and/or therapeutic procedures, the definition of a suitable anaesthetic protocol, the planning of peri-operative analgesia and patient's management. Pre-anaesthetic examination includes proper information of the owner, together with the acquisition of the owner's approval.

1.4 **Pre-anaesthetic examination** coordinates and concludes a more complex process of 'multidisciplinary examination', which has the purpose to define a patient's basic clinical condition, suggestions for procedures and diagnostic paths, and may involve the participation of consultant specialists from other disciplines.

2. CLINICAL EXAMINATION

2.1 **The choice of the anaesthetic protocol and the management of anaesthesia are exclusively the responsibility of the anaesthetist.** He/she will decide the anaesthetic technique to be used, and investigations or therapies to be performed prior to the procedure, according to his/her own judgement and to the planned surgical/diagnostic procedure, taking into account the owner's requests and the information obtained by the doctor who has requested the procedures. In human medicine, in Italy, these matters are ruled by law (August 9, 1954 Bill, n°653).

2.2 On the basis of collected clinical information, the anaesthetist may decide **anaesthesia is not recommended**, or he may decide to postpone the procedure. In this case he will have to inform both the doctor and the owner, and will report the reasons in the patient's clinical record. A joint evaluation of risks and advantages of the procedure will determine the most suitable time for the performing of the intended treatment. The owner should be informed about possible contrasts between the doctor and the anaesthetist's opinion on the subject.

2.3 An **accurate pre-anaesthetic examination** is recommended before starting any surgical/diagnostic procedure which requires anaesthesia. To make the drafting of a case history easier, owners could be asked to fill in auto-examination questionnaires, which may integrate the pre-anaesthetic examination even though they cannot be a substitute for it. If the patient has been already admitted, the whole file including the clinical record at admission, results from previous tests and examinations, and a request form the veterinary surgeon in charge of the case should be available. In human medicine, in Italy, this matter is also regulated by law (DPR July 22, 1996, n°484).

2.4 Pre-anaesthetic examination should be based on clinical records, the diagnostic tests carried out, history, and clinical examination of the patient. During this process, **all possible choices should be considered** regarding:

- premedication;
- anaesthetic protocol (including perioperatory pain therapy);
- post-operative analgesia if required, including home pain therapy;
- the need for special clinical-instrumental monitoring during the procedures;
- the need for special assistance at the end of the procedures.

Case history and clinical examination should try to point out previous or present diseases and pharmacological treatments which might interfere with anaesthesia, keeping an eye on individual and related family response to anaesthetic drugs. Examination of the patient should also find out possible anomalies which could be a drawback to anaesthetic manoeuvres.

2.5 For elective procedures, a **request for pre-anaesthetic examination** should be forwarded in good time by the veterinary surgeon in charge of the case, leaving the anaesthetist the time for an in-depth examination and in order to perform further diagnostic investigations, get specialists' consultancy, or devise a special preparation of the patient if necessary. The veterinary surgeon who makes the request should also supply the anaesthetist with all the useful information for a correct evaluation, particularly the one concerning:

- type of planned procedure and possible surgical technique;
- expected anaesthetic time;

- necessary or desirable position of patient on the operating table;
- risk of haemorrhage;
- organization of pre-operative blood banking (or pre-operative isovolemic hemodilution), if needed and/or facilities are available;
- known or suspected infectious diseases.

The choice of the most suitable time to perform the examination depends on the patient, the planned procedure, and last but not least the internal organization of the practice.

2.6 We also suggest the development of **internal organizational models** which include the making of the whole multidisciplinary evaluation on a day-hospital basis, so much in advance from surgery as to permit possible further examinations, with the aim of reducing the hospital stay and optimizing the planning of elective procedures.

2.7 Case history and clinical information collected during the pre-anaesthetic examination **should be recorded, dated and signed by the anaesthetist**. In case he/she thinks he/she might not be the person who will perform anaesthesia, the owner should be informed. It is also desirable that the incoming anaesthetist should take note on time of case history and of what his/her colleague has recorded.

2.8 History collection and clinical examination by the anaesthetist should be done in the owner's presence, or in presence of a delegated person.

2.9 The anaesthetist also takes **the responsibility to ask for** laboratory tests, diagnostic investigations or specialists' consultations to be done before the patient undergoes surgical/diagnostic procedures requiring anaesthesia. He/she will decide by each case, according to clinical data including patient's age, history, the existing risks, and the procedure to be performed. It is suggested that each veterinary practice set up its own pre-anaesthetic examination flow-charts.

3. RISK ASSESSMENT PRIOR TO DIAGNOSTIC/THERAPEUTIC PROCEDURES: SUGGESTED INVESTIGATIONS

We have classified as inconclusive the scientific evidence related to the influence of laboratory tests and other investigations on the evaluation of risks and of anaesthetic outcome. This is because despite many papers examining this relationship have been published until now, none of them satisfies criteria of absolute scientific rigour.
Though we must admit that in veterinary medicine the situation is even more chaotic than in human medicine, ISVRA Workgroup is carefully examining the

available information on the subject and would like to update this chapter soon.

4. OWNER' S INFORMATION AND ASSENT

As far as the legal aspects of anaesthesia are concerned, an owner's conscious assent should be **a paper which highlights the owner's information and his/her cooperation with the veterinary surgeon as decision-maker**. In its essence, the document could follow, in its scheme and contents, the standard model used in human medicine (14).
A correct procedure should ensure:

a. a good communication between veterinary surgeon and owner;
b. the acknowledgement of an owner's right to accept or refuse the proposed surgical/diagnostic options;
c. the doctor's right to receive a legally valid confirmation that the owner understands risks and advantages related to the procedure his/her animal will undergo, and the role of the anaesthetist in the procedure.

The owner should be previously informed that **the veterinary surgeon who is taking care of the animal** has decided to submit the patient to a diagnostic or theraputic procedure, and should also know which procedure it will undergo. It is the anaesthetist's task to inform the owner about the patient's general conditions, the chosen anaesthetic protocol (general, local, regional anaesthesia or sedation) and risks related to it, the possible interventions (invasive monitoring, chatheters and probes being inserted) with risks and complications which might derive, and finally the possibility that the anaesthetic protocol could be modified during the procedure. The owner should also be aware of the incidental need for transfusion, analgesia, and intensive care after the procedure.
The owner's information has the purpose of obtaining his/her valid assent and answering his/her possible relevant questions.
The owner's authorization should be a part of the patient's file; it should be dated and signed by the doctor who asked and obtained the assent.

5. MEDICAL- LEGAL ASPECTS

In the light of the constant development of scientific knowledge and technological progress, and being aware that a consequence of this evolution is an intensification of legal disputes, problems of professional responsibility, particularly in the field of anaesthesia, can no more be solved on the ground of individual professional training and ability, nor can they be delegated to "experts", despite how authoritative their opinions may be.
We think that clear, well-grounded guidelines drafted by a Scientific Society could authoritatively advise the anaesthetist on the most appropriate way to practice anaesthesia. Guidelines should **aim at being helpful for the patient,**

reducing risks related to inefficient individual behaviour, while they could **supply the anaesthetist with a logical defence against the unreasonable owner's claim** to submit his/her animal only to thoroughly "entirely without risk" procedures (inexistent!). In the field of anaesthesia, more then in other disciplines, **risk cannot be completely discounted**; it can only be reduced with a wise application of guidelines which may point out the most suitable behaviour. This way, guidelines may be a useful reference to judge individual professional responsibility.
At the same time, it is however necessary to make clear that guidelines should be interpreted as the minimal common complex of care the patient should receive, not as an insurance policy which protects the doctor from the hazard of being accused of negligent or culpable behaviour. Guidelines cannot and should not be considered either as standards of behaviour nor as a standstill, not only because they need a constant review in the light of new knowledge, but also because they represent the minimal requisites for correct behaviour.
We would like to remark that it is careful evaluation of information from history and clinical examination which may point out the need for further investigations. These investigations will be carried out with any appropriate methodology and instrument, according to consistent and motivated clinical needs. Only this approach will protect the anaesthetist from the risk of making mistakes due to insufficient collection of data; it will always be the individual anaesthetist's duty to decide whether a closer examination, supported by further investigations, is required.

Following the guidelines does not exclude the fact that an anaesthetist may be asked to defend the correctness of his actions as an individual case. Therefore, we would like to point out that when the case requires it, an anaesthetist should not slavishly follow what is suggested from the guidelines or from any standardized protocol, in performing anaesthesia.

REFERENCES

1. Guidelines for preanesthesia evalution. The American Society of Anesthesia (draft).
2. Recommandations concernant la periode préanesthésique. Societè Francaise d'Anesthésie et de Réanimation, 1991
3. Belgian standards for safety in anaesthesia. The Belgian Anesthesia Patient safety Steering-Committee. Acta Anaesth Belg 40: 231-238, 1989.
4. Rosenberg P, Gisvold SE, Flaatten H, et al: Guidelines for anesthesia care in the Nordic Countries. Acta Anesth Scand 36: 741-744, 1992.
5. Consensus Conference "Valutazione anestesiologica ed esami preoperatori". Ufficio VRQ Ospedale Niguarda, Milano, 1997.

6. Indications for routine preoperative examinations. Agence Nationale pour le Dévelopment de l'Evaluation Medicale, Paris.
7. Preoperative routines. The Swedish Council on Technology Assessment in Health Care/Statens beredning for utwardering av medicinsk metodik (SBU). Stockholm.
8. Healthy/asymptomatic patient preoperative evaluation. Basque Office for Health Technology Assessment, Health Department of the Basque Government.
9. Saklad M: Grading of patients for surgical procedures, Anesthesiology 2: 281- 284, 1941.
10. Dripps RD, Lamont A, Eckenhoff JE: The role of anesthesia in surgical mortality, JAMA 178: 261-266, 1961.
11. Vacanti CJ, Van Houten RJ, Hill RC: A statistical analysis of the relationship of physical status to operative mortality in 68,388 cases. Anesth Analg 49: 564-566, 1970.
12. Marx GF, Mateo CV, Orkin LR: Computer analysis of post anesthetic death. Anestyhesiology 39: 54-58,1973.
13. Owens WD, Felts JA, Spitznagel EL: ASA Physical Status Classifications: a study of consistency of rating. Anesthesiology 49: 239-243, 1978.
14. Gruppo di Studio SIAARTI per la Sicurezza in Anestesia e Terapia Intensiva: Il consenso informato all'anestesia. Minerva Anestesiol 63: 271-273, 1997

Footnote
The ASA classification

The ASA classification was created in 1941 with the sole aim of describing a patient's pre-operative condition to compare population, drugs and anaesthetic techniques. The original Saklad's classification contained 6 groups, and for each of these 5 to 10 examples of "systemic disease". Groups 5 and 6 included emergency. In 1961, Dripps et al. proposed the present distribution in 5 classes, adopted by ASA in 1962. In this classification, former classes 5 and 6 were merged into the letter E, which stands for "emergency". The description of the first 4 classes ran thus: normal health, mild/severe/incapacitating systemic disease. The aim of the authors of this re-edition, which did not report any clinical example, was again to implement communication and the possibility to compare the results of studies from different researchers. It was clearly stated that this classification did not represent an evaluation of anaesthetic risks or, more generally, of surgical risks.
Subsequent studies proved the validity of the opposite theory. Today, the statement 'the more ill the patient is, the more he runs the risk of dying' is very

well founded. Furthermore, this relationship is even stronger if we consider the risk of the whole procedure rather then the sole anaesthetic risk. This is because the ASA classification does not take into account risks connected with malignant hyperthermia, unpredictably difficult or impossible tracheal intubation (even if infrequent in small animal anaesthesia), uncontrollable haemorrhage. One of the few causes of death connected with anaesthesia and with physical conditions seems to be drug overdose.
An explanation of the weak connection between ASA classification and anaesthetic risk is probably to be found in how difficult it is to make a distinction between death related to anaesthesia and death connected with the patient's condition or with the surgical procedure. With the exception of clinical cases described by Saklad in 1941, the American Society of Anesthesiology has never supplied detailed examples or schemes for the categorization of patients in the various classes. Also, the information drawn from Vacanti and Marx's studies, though allowing the endorsement of the classification as an index of the peri-operative risk, proves the classification to be limited, ambiguous, subjective, and finally extremely influenced by the environment where it has been applied. A useful suggestion comes from Owens, who proposed a further subdivision of classes according to 4 important characteristics connected with risk, which are age, obesity, anaemia and previous myocardial infarction (this last feature has real importance only in human medicine). Plenty of useful indicators for specific diseases and specific operations can be found in medical and veterinary literature.
While we hope for the publication of systems capable of predicting death risks, complications and prolonging of postoperative care, the ASA classification remains, despite its limits, a system which can give us a useful predictive index of global peri-operative risk, simply by ticking a number.

Note: In the 900 studies examined by SIAARTI, no relationship between variables implied in the process of pre-anaesthetic evaluation when related to patient outcome has been classified as 'sufficient'.

ISVRA Task Force for Guidelines for Safety in Veterinary Anaesthesia

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