Rev Bras Anestesiol. 2018;68(1):1–32

Sociedade Brasileira de Anestesiologia

REVISTA BRASILEIRA DE ANESTESIOLOGIA

Publicação Oficial da Sociedade Brasileira de Anestesiologia
www.sba.com.br

SPECIAL ARTICLE

Consensus on Perioperative Transesophageal Echocardiography of the Brazilian Society of Anesthesiology and the Department of Cardiovascular Image of the Brazilian Society of Cardiology

Marcello Fonseca Salgado-Filho[a,b,*], Samira Saady Morhy[c,d], Henrique Doria de Vasconcelos[a,e,f], Eric Benedet Lineburger[a,g], Fabio de Vasconcelos Papa[a,h], Eduardo Souza Leal Botelho[a,i,j], Marcelo Ramalho Fernandes[a,k,l], Maurício Daher[a,m], David Le Bihan[c,n,o,p], Chiara Scaglioni Tessmer Gatto[a,q,r], Cláudio Henrique Fischer[c,d,s], Alexander Alves da Silva[a,t], Carlos Galhardo Júnior[a,i], Carolina Baeta Neves[a,n,s], Alexandre Fernandes[a,i,j], Marcelo Luiz Campos Vieira[c,d,q,r]

[a] *Núcleo Vida – Ecocardiografia Transesofágica Intraoperatória da Sociedade Brasileira de Anestesiologia (ETTI/SBA), Rio de Janeiro, RJ, Brazil*
[b] *Universidade Federal de Juiz de Fora (UFJF), Juiz de Fora, MG, Brazil*
[c] *Departamento de Imagem Cardiovascular da Sociedade Brasileira de Cardiologia (DIC/SBC), São Paulo, SP, Brazil*
[d] *Hospital Israelita Albert Einstein, São Paulo, SP, Brazil*
[e] *Universidade Federal do Vale da São Francisco (Univasf), Petrolina, PE, Brazil*
[f] *Jonhs Hopkins University, Baltimore, USA*
[g] *Hospital São José, Criciúma, SC, Brazil*
[h] *Takaoka Anestesia, São Paulo, SP, Brazil*
[i] *Instituto Nacional de Cardiologia (INC), Rio de Janeiro, RJ, Brazil*
[j] *Universidade do Estado do Rio de Janeiro (UERJ), Rio de Janeiro, RJ, Brazil*
[k] *Hospital Pró-Cardíaco, Rio de Janeiro, RJ, Brazil*
[l] *Hospital Copa Star, Rio de Janeiro, RJ, Brazil*
[m] *Instituto de Cardiologia do Distrito Federal, Brasília, DF, Brazil*
[n] *Instituto Dante Pazzanese de Cardiologia, São Paulo, SP, Brazil*
[o] *Hospital do Rim e Hipertensão, São Paulo, SP, Brazil*
[p] *Grupo Dasa, São Paulo, SP, Brazil*
[q] *Instituto do Coração (Incor), São Paulo, SP, Brazil*

* Corresponding author.
E-mail: mfonsecasalgado@hotmail.com (M.F. Salgado-Filho).

https://doi.org/10.1016/j.bjane.2017.09.001

[r] *Faculdade de Medicina da Universidade de São Paulo (FMUSP), São Paulo, SP, Brazil*
[s] *Universidade Federal de São Paulo (Unifesp), São Paulo, SP, Brazil*
[t] *São Paulo Serviços Médicos de Anestesia (SMA), São Paulo, SP, Brazil*

Received 20 June 2017; accepted 17 July 2017
Available online 16 October 2017

KEYWORDS
Echocardiography;
Transesophageal;
Perioperative

Abstract Through the Life Cycle of Intraoperative Transesophageal Echocardiography (ETTI/SBA) the Brazilian Society of Anesthesiology, together with the Department of Cardiovascular Image of the Brazilian Society of Cardiology (DIC/SBC), created a task force to standardize the use of intraoperative transesophageal echocardiography by Brazilian anesthesiologists and echocardiographers based on scientific evidence from the Society of Cardiovascular Anesthesiologists/American Society of Echocardiography (SCA/ASE) and the Brazilian Society of Cardiology.

PALAVRAS-CHAVE
Ecocardiografia;
Transesofágico;
Perioperatório

Consenso sobre Ecocardiografia Transesofágica Perioperatória da Sociedade Brasileira de Anestesiologia e do Departamento de Imagem Cardiovascular da Sociedade Brasileira de Cardiologia

Resumo A Sociedade Brasileira de Anestesiologia, pelo Núcleo Vida de Ecocardiografia Transesofágica Intraoperatória (ETTI/SBA) juntamente com o Departamento de Imagem Cardiovascular da Sociedade Brasileira de Cardiologia (DIC/SBC), fez uma força-tarefa para normatizar a feitura da ecocardiografia transesofágica intraoperatória para os anestesiologistas e ecocardiografistas brasileiros com base nas evidências científicas da Sociedade dos Anestesiologistas Cardiovasculares/Sociedade Americana de Ecocardiografia (SCA/ASE) e da Sociedade Brasileira de Cardiologia.

Introduction

Since its introduction in clinical practice in the late 1980s, transesophageal echocardiogram (TEE) has become one of the main diagnostic modalities in cardiology, as it guides anesthetic/surgical procedures and reduces morbidity and mortality in cardiac surgeries.[1] Due to the great proximity of the esophagus to the heart, to the absence of bones or lung tissue, and the use of high frequency transducers, it is possible to obtain high quality images.[1]

The first guideline on perioperative TEE was published in 1999 by the Society of Cardiovascular Anesthesiologists/American Society of Echocardiography (SCA/ASE), which defined the nomenclature and the 20 cross-sections for basic TEE.[2] In Brazil, we have the Brazilian Society of Cardiology (SBC) guidelines on the use of TEE.[3] The levels of evidence and indications for using TEE in cardiac and non-cardiac surgeries are shown in Table 1.

The SCA/ASE and SBC guidelines define professionals qualified to use echocardiography as a diagnostic method or as hemodynamic monitoring according to their basic and advanced knowledge criteria.[1,3] In Brazil, the area of perioperative echocardiography activity is being defined by the Brazilian Society of Anesthesiology (SBA) and SBC. As a first step in the standardization of this qualification and in order to promote continuing education to its members, in the last five years the SBA has taught the course of intraoperative echocardiography (ETI/SBA), divided into two modules, basic (Module I) and advanced (Module II).[4]

Thus, the SBA and DIC/SBC consensus on intraoperative TEE aims to standardize intraoperative echocardiography for Brazilian anesthesiologists and echocardiographers based on the scientific evidence of ASE/SCA and SBC.

Equipment

TEE probe was developed to improve images for which the transthoracic technique had limitations, such as for obese and emphysematous patients and those with thoracic anomalies.[1] The TEE ultrasound wave passes only through the esophagus and pericardium to form the heart images. In this way, images with higher resolution and greater number of anatomical sections are obtained (Fig. 1). In addition,