

Brief Reviews

Edited by J. S. Gravenstein, MD

ANAESTHESIA AND INTENSIVE CARE

Disconnect alarm failure in detection of common gas outlet disconnection.

In 2 small children under general endotracheal anesthesia and during use of a Clare ventilator (a T-piece pump type ventilator) a disconnection failed to trigger a low pressure disconnect alarm which in later laboratory studies was explained as being an inherent problem with this type of ventilator used in very small children, a problem for which monitoring of oxygen concentration in the inspired gas can compensate.

French RA, Kennedy RR: *Anaesth Intens Care* 1998; 26: 665–70

Difficult pulmonary artery catheterization in a patient with persistent left superior vena cava.

Difficulties encountered during placement of a pulmonary artery catheter may be attributed in some cases to a persistent left superior vena cava, a developmental abnormality occurring in about 0.3% of the general population.

Lai YC, Goh JCY, Lim SH, Seah TG: *Anaesth Intens Care* 1998; 16: 671–3

Carbon dioxide embolism following diagnostic hysteroscopy.

A carbon dioxide embolism was diagnosed when a patient became pulseless and cyanotic during hysteroscopy using carbon dioxide insufflation during which time end-tidal carbon dioxide values decreased until successful resuscitation reestablished hemodynamic normalcy.

Sherlock S, Shearer WAJ, Buist M, Rasiah R, Edwards A: *Anaesth Intens Care* 1998; 26: 674–6

Nasopharyngeal electrode recording of somatosensory evoked potential as an indicator in brain death.

A nasopharyngeal electrode provides non-invasive access to the ventral brainstem at the medullo-pontine level and the disappearance of the P14 shows involvement of the cranio-cervical junction in brain dead patients.

Roncucci P, Lepori P, Mok MS, Bayat A, Logi F, Marino A: *Anesth Intens Care* 1999; 29: 20–5

Haemodynamic measurements (continuous cardiac output and systemic vascular resistance) in critically ill patients: Transoesophageal Doppler versus continuous thermodilution.

The transoesophageal Doppler measurements were found to be reliable and useful in complementing data obtained from the pulmonary artery catheter with a heated filament.

Baillard C, Cohen Y, Fosse JP, Karoubi P, Hoang P, Cupa M: *Anesth Intens Care* 1999; 29: 33–7

Computer-enhanced diagnosis of malignant hyperpyrexia.

In a retrospective analysis of a patient and simulated scenarios of malignant hyperpyrexia, heart rate, end-tidal carbon dioxide concentration, and temperature were captured as fuzzy parameters used in the diagnosis of malignant hyperpyrexia (in contrast to a potential mis-diagnosis in patients undergoing laparoscopic operations with increasing levels of end-tidal CO₂) and were found to arrive at a diagnosis about 10 minutes before the anesthetist had been able to identify the nature of the problem.

Lowe A, Harrison MJ: *Anesth Intens Care* 1999; 29: 41–4

Middle cerebral artery flow velocity and cerebral oxygenation during abdominal aortic surgery.

During crossclamping of the infrarenal aorta, cardiac output fell and with unclamping rose, changes that were accompanied by decreases and increases in end-tidal carbon dioxide concentration, middle cerebral artery blood flow velocity as estimated by transcranial Doppler and cerebral oxygenation as estimated by near-infrared spectroscopy with the help of an INVOS 3100 cerebral oximeter.

Liu G, Burcev I, Pott F, Ide K, Horn A, Secher NH: *Anaesth Intens Care* 1999; 27: 148–53

DER ANAESTHESIST

Determination of cardiac output using the transpulmonary and pulmonary/arterial technique in patients with acute respiratory distress syndrome.

In 18 ARDS patients cardiac output determinations using either the traditional thermodilution method via a PA catheter or an indocyanine green dilution technique with atrial injection and aortic sampling were found to yielded comparable data that were not influenced by increased lung water.

Zoellner C, Briegel J, Kilger E, Haller M: *Der Anaesthesist* 1998; 47: 912–7

Perioperative changes in fluid filtration capacity in patients undergoing vascular surgery.

With the help of venous congestion plethysmography, the microvascular permeability was found to be significantly increased for several days postoperatively in patients receiving femoral arterial reconstruction and most markedly in patients undergoing repair of an abdominal aortic aneurysm, which was in stark contrast to the insignificant changes observed in patients after hernia repair or hand operations.

Christ F, Gamble J, Raithel P, Steckmeier B, Messmer K: *Der Anaesthesist* 1999; 48: 9–18

JAMA

Increased pulse pressure and risk of heart failure in the elderly.

As diastolic pressures fall and systolic pressures rise, indicative of a stiffer vascular system, the incidence of congestive heart failure (CHF) rises which means that the pulse pressure represents an independent predictor of risk of CHF, to wit for each 10 mmHg elevation of pulse pressure, the risk of CHF grew by 14%.

Chae CU, Pfeffer MA, Glynn RJ, Mitchell GF, Taylor JO, Hennekens CH: *JAMA* 1999; 281: 634-9

Prognostic value of the admission electrocardiogram in acute coronary syndromes.

The incidence of death or myocardial infarction within 30 days in patients with acute chest pain with T wave inversion was 5.5%, with ST elevation was 9.4%, with ST segment depression was 10.5%, with ST segment depression and elevation was 12.4%, and was worse yet if the creatine kinase level at admission was also elevated.

Savonitto S, Ardissino D, Granger CB, Morando G, Prando MD, Mafri A, Cavallini C, Meladri G, Thompson T, Vahanian A, Ohaman EM, Califf RM, van de Werf F, Topol EJ: *JAMA* 1999; 281: 707-13

Is this patient hypovolemic?

A review of several studies and clinical records suggests that the time honored supine hypotension and tachycardia are unreliable signs of hypovolemia and that postural pulse increase of >30 beats or severe dizziness may be absent unless blood loss was extensive, that capillary refill and poor skin turgor in adults are useless indicators of fluid status and that dry axillae and mucous membrane and a furrowed tongue as well as changes in serum electrolytes, BUN, and creatinine may prove diagnostically helpful in patients with hypovolemia secondary to fluid loss after diarrhea and vomiting.

McGee S, Abernethy III WB, Simel DL: *JAMA* 1999; 281: 1022-29

Association of nonspecific minor ST-T abnormalities with cardiovascular mortality. The Chicago Western Electric study.

The more frequent persistent, minor, nonspecific ST-T abnormalities in 1673 middle-aged men followed over 5 years, the greater the risk of death from myocardial infarction, coronary heart disease, cardiovascular disease and all causes, giving the finding of minor ST-T abnormalities in the ECG a greater than heretofore appreciated weight.

Daviglus ML, Liao Y, Greenland P, Dyer AR, Liu K, Xie X, Huang C-F, Prineas RJ, Stamler J: *JAMA* 1999; 281: 530-6

LANCET

An independent pilot study of the accuracy and reliability of home blood glucose monitors.

Thirteen non-wipe meters for home-blood glucose monitoring were tested and most were found wanting at higher glucose levels, a problem complicated by the fact that commercial testing solutions gave inconsistent results.

Urdang M, Ansedo-Luna G, Muller B, Newson R, Lacy-Pettit A, O'Shea D: *The Lancet* 1999; 353: 1065-6