Central venous catheter used for recording intracardiac electrocardiogram

A safe and reliable method for registering atrial potentials using a new device connected to the central venous catheter

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A simple bedside method for recording the right atrial electrocardiogram using the conventional central venous catheter is presented. Satisfactory registering is obtained with the help of a silvered metallic T-shaped device positioned between intracath and infusion-set, with saline solution as conductor.

Good electrical conduction has been obtained by two principles: the conductor in the catheter is a non-moving isotonic or hypertonic saline solution, and the metallic device has been silvered. Except for the brief periods necessary for electrical recording, this set permits permanent infusion. This system is easily and

FIG. 1 (1) T-shaped metallic device; (2) three-way stop-cock; (3) intracath; (4) infusion solution; (5) saline solution; and (6) electrocardiogram recording.
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rapidly installed and can be routinely used in intensive care units.

The example shown in Fig. 3 serves to illustrate the quality of the atrial recording in a patient with a tachycardia and how it is possible to differentiate between supraventricular and ventricular origin of the arrhythmia. The upper tracing shows one of the conventional leads (III), the lower the right atrial recording. Lead III as well as the other conventional leads did not reveal the atrial potentials which are clearly visible on the intracardiac electrocardiogram registered by this method. The total AV dissociation proves that the presented case has a ventricular tachycardia.

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References

FIG. 2 T-shaped metallic device.

FIG. 3 Comparison of conventional recording of lead III (upper tracing) and intra-atrial recording (lower tracing).