

The Disconnection: A Seldom But Fatal Complication of Dialysis

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Editorial

In ten-year intervals, the disconnection of the venous access remains a serious and fatale complication of dialysis. Indeed, this is very seldom, but it remains constant. In these cases, the needle will leave the patient, while the reduced venous pressure may not reach the lower alarm limit in order to stop the blood pump. If this case will not immediately detected by the nursing, than there is a big danger of bleeding-off the patient. Circumstances to contribute to this problem are insufficient fixation of the venous needle, patient's own movements, perhaps suicidal intention of the patient and mechanical reasons. The mechanical reason will see in a big difference of the high between the patient and the location of the port of the venous pressure transducer.

An example will make this easier for understanding. In general, the bed of the patient is for better handling and comfort in a low position. In our example, there is a monitor with a fixed high. So you will have a low venous pressure, while this will set the alarm window to a lower range. In case, when the patient's bed is elevated and the monitor (greater than the port of the venous pressure transducer) had put down, you will definitely reach a higher venous pressure with the exact equal blood flow. This "artificial elevated" venous pressure will reach

the lower limit of the alarm window to stop the blood pump. But this position is "experimental"; the nursing will never use this, whenever it makes lights on to this problem.

One premium monitor of today has a set-up inside to handle the disconnection, the VAM (Vascular Access Monitor). With this VAM set-up, the patient's heart rate will counted be the arterial suction pressure (greater than pressure shifts of suction pressure of the bloodline between pumping and filling of the heart). In a sudden disconnection with bleeding-off, there will follow a shock reaction of the patient's circulation with a tachycardia episode. The acceleration of the heart rate will stop the blood pump immediately, if the venous pressure had not reached the lower alarm limit.

Thinking over this theme, there remain several points. The culture for reports concerning serious problems needs improvement, as a fatal outcome is a problem to report. A second reason is, that the addressed society or medical authority will be in the state to understand the problem, the documentation alone will never be sufficient. The industry should come together to install the VAM into every new monitor. The economists should find a financial way for this.

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