Catheter-Induced Thrombosis: a rising concern

Until recently, thrombosis resulting from the use of catheters was not regarded as a significant problem. Clinical attention focused more on other effects, such as the risk of septicaemia or complications of catheter insertion itself.

But studies over the past few years demonstrate a rising concern over platelet affinity for catheters and the potential risks of thromboembolic complications that may be catheter...
In this test, catheters were exposed to platelet suspensions, then measured by scintillation counting a minimum of three times to allow an average value to be calculated.

In two separate experiments, groups of materials were immersed for 10, 30, and 60 minutes.

Results: Exhibit 2 illustrates the scintillation counts for the various materials tested in the experiments. High counts indicate that the material has a tendency to attract platelets in greater numbers and is thus more likely to be thrombogenic.

Conclusions: ...Hydromer-coated materials tend not to attract platelets in great numbers and are considered less thrombogenic than the other materials tested.

NO. 3: In vivo implant study at Rutgers

In association with Rutgers University, Crowley and Borow also conducted in vivo studies using dogs. In this study, competitive catheters were cut to 30mm lengths at the distal end, then implanted simultaneously into test animals for periods ranging from one to four weeks. Four instruments were inserted on the arterial side, and four on the venous side.

Results: Exhibit 3, which visually summarizes the overall test results, shows instruments removed from one test animal after 14 days.

Conclusions: Erythrocat provides greater thromboresistance than competitive catheters.
RUTGERS DOG STUDY

In vivo Implant: 8 Days

Clot Size 0 (No Clot) - 5

Deseret
Left Femoral Artery

- Thickened Vessel: Yes
- Clot Size: 3-4
- Notes: Clot at One End
- Pressure to Clear Lumen: 1
- Notes: Proximal Clot

Deseret
Left Femoral Vein

- Thickened Vessel: ---
- Clot Size: 1
- Notes: Floating Clot
- Pressure to Clear Lumen: 5
- Notes: ---

Pressure to Clear Lumen
0 (Clot Slides Out) - 5

Hydromer coated
Right Femoral Artery

- Thickened Vessel: No
- Clot Size: 0
- Notes: Clean
- Pressure to Clear Lumen: 1
- Notes: ---

Hydromer Coated
Right Femoral Vein

- Thickened Vessel: ---
- Clot Size: 0-1
- Notes: ---
- Pressure to Clear Lumen: 0-1
- Notes: Clot Slid Out On Its Own