

Classic Pages of the *Journal of ExtraCorporeal Technology*

Section Editor: Jeff Riley, MHPE, CCT

Johnston N, Jessen ME, DiMaio M, Douglass DS. The emergency use of recombinant hirudin in cardiopulmonary bypass. *J Extra Corpor Technol*. 1999;31:211–215.

There is much concern and discussion among perfusionists and open-heart surgery team members when a patient is known to be allergic to heparin. This issue's classic article is a 1999 case report entitled "The emergency use of recombinant hirudin in cardiopulmonary bypass" (CPB) (1). With the increased dialogue and discussions concerning alternative anticoagulants to heparin, and the need for perfusion service teams to have protocols in place for heparin-induced thrombocytopenia (HITS) patients, well-crafted case reports are a great starting place.

Nicklett Johnston and her co-authors were early on the scene in 1999 with their two patient case report. A PubMed (<http://www.ncbi.nlm.nih.gov/entrez>) search of "HITS" and CPB yielded 145 references. Our Johnston, et al. case report was preceded by only a few case reports or series in the PubMed literature search. Frankly, we should have all read HITS case reports and written our protocols by now, but if you have not—here is a gentle reminder.

Although peer-reviewed case reports are midrange in the hierarchy of evidence-based literature to support patient care decisions, the case report plays an important role in a health care profession like ours where the science and technology are constantly changing. Johnston's case report is well organized and has a useful framework for readers.

Searching "hirudin" at www.ject.org/ yielded four more relevant references. Webb, Vinas, Drinkwater, and Merrill offered another timely r-hirudin case report in 2000 (2). Charlene Fabrizio (3) presented a case report that featured the use of the Ecarin Clotting Time and provided

an educational table of currently available heparin alternatives. Koster et al. (4) reviewed Type II HITS.

Just to make things interesting, O'Gara, Aldea, Shemin, and Shapira (5) presented a patient report where they used a closed circuit, minimized surface area, stagnant flow and heparin dosage in a HITS patient and had a successful outcome. O'Gara et al. (5) articulated the disadvantages to non-heparin anticoagulant use during CPB.

In the last two years, more than nine or ten r-hirudin or direct thrombin inhibitor use reports and reviews have been published. The 1999–2001 *JECT* reports paved the way. The early *JECT* articles concerning HITS patients and alternatives to heparin illustrate the timely and professional use of the case reports to pave the way to safer evidence-based clinical procedure guidelines in our profession.

Jeffrey B. Riley MHPE, CCT
The Ohio State University

REFERENCES

1. Johnston N, Jessen ME, DiMaio M, Douglass DS. The emergency use of recombinant hirudin in cardiopulmonary bypass. *J Extra Corpor Technol*. 1999;31:211–215.
2. Webb DP, Vinas MS, Drinkwater Jr. DC, Merrill WH. The use of r-Hirudin during cardiopulmonary bypass in a patient with heparin induced thrombocytopenia. *J Extra Corpor Technol*. 2000;31:107–110.
3. Fabrizio MC. Use of ecarin clotting time (ECT) with lepirudin therapy in heparin-induced thrombocytopenia and cardiopulmonary bypass. *J Extra Corpor Technol*. 2001;33:117–125.
4. Koster A, Meyer O, Hetzer R, Kuppe H. Review Article: Some new perspectives in heparin-induced thrombocytopenia type II. *J Extra Corpor Technol*. 2001;33:193–196.
5. O'Gara PJ, Aldea GS, Shemin RJ, Shapira OM. Heparin-bonded circuit with low systemic anticoagulation in a patient with heparin-induced thrombocytopenia: A case report. *J Extra Corpor Technol*. 1999;31:142–144.

You may nominate a *J Extra Corpor Technol* article as a classic by contacting riley.267@osu.edu.