1130-0108/2010/102/5/338-339
Revista Española de Enfermedades Digestivas

Rev Esp Enferm Dig (Madrid)
Vol. 102, N.° 5, pp. 338-339, 2010

Letters to the Editor

Cecal volvulus in a cardiac transplant patient. Report of a case and critical review

Key words: Cecal volvulus. Cardiac transplantation. Gastrointestinal complications.

Dear Editor,

The acute abdominal complications in the cardiac transplant recipients represents a big challenge, demanding an early diagnosis due to its high mortality (20-25%). Most of them occur on the first 30 postoperative days, when other events can make the appropriate diagnosis more difficult (1-3).

We report the case of cecal volvulus in the early postoperative period of a cardiac transplant patient, and a critical review.

Case report

A 61 years-old male, diagnosed of dilated cardiomyopathy, secondary to coronary artery disease, with ejection fraction of 23%, was sent to our center for heart transplantation. His previous history showed appendicectomy, hypertension (type 2), diabetes, chronic renal insufficiency and previous coronary artery bypass surgery.

The heart transplant was performed with bicaval technique. The ischemia time was 280 min with cardiopulmonary bypass duration of 200 min. The patient required vasopressors and blood transfusion due to tendency to hipotension after surgery. Prophylactic antibiotics and immunosuppressive regime based on corticosteroid, daclizumab and mycophenolate mofetil was prescribed.

In the early postoperative period the patient suffered diarrhea and fever. *Clostridium difficile* was ruled out based on toxin A and B assessment in the stool samples by enzymunoanalysis.

On the 10th postoperative day, the patient had severe acute abdominal pain, abdominal distension and leukocytosis (35.000 L/mm^3). An abdominal CT showed cecal distension –12 cm diameter–, with signs of cecal volvulus type "variant cecal bascule" (Fig. 1).

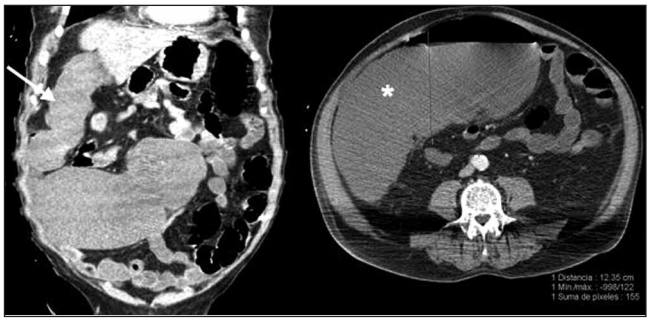

Fig. 1. Coronal and axial TC images shows a 12.3 cm distension of the cecum (*), with normal morphology at the level of the ascending colon (arrow).

An urgent laparotomy confirmed the diagnosis of cecal volvulus with signs of transmural necrosis without perforation. A right colectomy with primary ileo-colic anastomosis was performed.

The patient developed an uneventful postoperative course. The pathological report confirmed transmural necrosis with dilation, congestion of mucosal and hemorrhage. The patient was discharged on 45 postransplant day, with an excellent graft function, with a fraction ejection of 77%.

Discussion

Cecal volvulus accounts for 20-40% of all colonic volvuli (4). They are more frequent in women; prior abdominal surgeries, adhesion, mobile cecum, distal colonic obstruction and hiperperistalsis have been implicated as causative factors (4).

The case described was operated years ago of appendicitis and developed diarrheas and colonic distension secondary to low cardiac output in the first postoperative days.

Although colonoscopic reduction of cecal volvulus has been reported, it has the potentially perforation risk of the colon. The resection is mandatory in the face of ischemic bowel, over other conservative procedure as cecopexy or tube cecostomy (4, 5).

Similarly to other series, the colonic complications represent 2% of gastrointestinal complications in transplanted population, being more prevalent in male of mean age older than 55 years.

The genesis has been related with several factors, especially with corticosteroids induction treatment. Many of these event occurred in the early postransplant period or after episodes of acute rejection. In addition, gastrointestinal complications have been related to visceral ischemia related to patient age, sex, preoperative ejection fraction, bypass time and allograft ischemia time.

The patient presented several of these risk factors as prolonged operative time, bypass duration, blood losses and vasoactive drugs (dobutamine, norepinephrine) requirement in the immediate postoperative course.

It is mandatory to rule out the *Clostridium difficile* infection in the setting of fever, leukocytosis and diarrhea in an immunosuppressed patient (6).

According with the Spanish Heart Transplant Registry, a total of 5,774 transplantations were performed until December 31, 2008; with a early mortality of 19% and mean survival time of 10.7 years.

These data outpoint the relevance and early surgical resolution of the abdominal complications in this population due to its high morbidity and mortality.

Acknoledgements

To Dr. Luis Almenar Bonet. Director of the Registro Español de Trasplante Cardiaco.

To Lydia Munárriz for her collaboration in this article.

A. Bueno-Delgado[1], F. Martínez-Regueira[1], P. Martí-Cruchaga[1], G. Zozaya-Larequi[1], A. García-Lallana[2], G. Rábago[3] and J. A.-Cienfuegos[1]

Departments of [1]General Surgery, [2]Radiology, and [3]Cardiology and Cardiovascular Surgery. Clínica Universidad de Navarra. Pamplona, Navarra. Spain

References

1. Merrel SW, Aures SA, Nelson EW, Renlund DG, Karwande SV, Burton NA, et al. Major abdominal complications following cardiac transplantation. Arch Surg 1989; 124: 889-94.
2. Kirklin JK, Holm A, Aldret JS, White C, Bourge RC. Gastrointestinal complications after cardiac transplantation. Ann Surg 1990; 211: 538-41.
3. Cates J, Chávez M, Laks H, Drunkwater D, Stevenson L, Kobashigawa J, et al. Gastrointestinal complications after cardiac transplantation: a spectrum of diseases. Am J Gastroenterol 1991; 86: 412-6.
4. Hellinger MD, Steinhagen R. Colonic volvulus. En: Wolff BG, Fleshman JW, Beck DE, Pemberton JH, Wexner SD, editors. The ASCRS textbook of colon and rectal surgery. New York: Springer (science + business media, LLC); 2007. p. 286-98.
5. Margolin DA, Whitlow CB. The patogenesis and etiology of colonic volvulus. Semin Colon Rectal Surg 1990; 10: 129-38.
6. Kelly CP, LaMont JT. Clostridium difficile. More difficult than ever. New Eng J Med 2008; 359(18): 1932-40.