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Spontaneous splenic rupture in infectious mononucleosis

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Spontaneous splenic rupture (SSR) in infectious mononucleosis (IM) is an extremely rare but often fatal complication [1],[2],[3] . It requires splenectomy or splenic preservation [1],[4],[5],[6],[7],[8],[9],[10] However, a non-operative management may be considered provided the patient is haemodynamically stable [1] . We describe a 30year old man with SSR secondary to IM and diagnosed as acute appendicitis. Splenorrhaphy was tried but failed. Splenectomy was performed without complications. A logistic approach in the management of SSR based on literature review is proposed. It is emphasized that splenic preservation must be attempted whenever the condition of the patient permits [1],[4],[5],[6],[7],[8],[9],[10]

Case Report

A 30-year old Sudanese man presented to the emergency room because of a right lower abdominal pain of one-day duration. It was associated with vomiting but no other symptoms. Systemic review was unremarkable. There was no history of abdominal trauma or previous malarial infestation. On examination, patients looked well. There was no pallor. His pulse 96 beats per min., blood pressure 110/60 mmHg, and temperature 37.8° C. Abdominal examination showed tenderness and rebound phenomenon in the right iliac fossa. There was no organomegaly. The bowel sounds were normal. Complete blood_ count was; haemoglobin 6.5 (1418g/L), packed cell volume 11.5 (42-52), white blood count 6.3 (4.8-10.8 x 10^9 /L) and platelets 59 (130-400 x 10^9 /L). The rest of investigations were within normal limits.

Acute appendicitis was suspected. Exploration through McBurney incision revealed grossly normal appendix. Haemo-peritoneum was observed and this necessitated formal laparotomy. It showed an enlarged spleen with two linear parenchymal disruptions as a source of bleeding [Figure - 1]. Splenorrhaphy was attempted but failed, and then splenectomy and appendectomy were performed. The patient had smooth, post-operative course and was discharged after 5 days.

He was vaccinated against pneumococci, Haemophilus influenzae sp d Neisseria More Details meningitidis. Histopathological examination of the spleen and lymph nodes showed congestion and scattered ReedSternberg (R-S) like cells suggestive of IM [Figure - 2]. The monospot test was positive.

Discussion

Infectious mononucleosis (Pfeiffer's disease, Kissing disease) is a common benign. acute infective disease due to Epstein Barr (EB) virus affecting mainly teenagers and young adults with self-limiting course [11] . Patients usually have malaise, sore throat, fever, cervical lymphadenopathy and mild splenomegaly [12] . The diagnosis can be confirmed by monospot test. Both thrombocytopenia and SSR are known complications of IM [12]. Spontaneous splenic rupture is a life-threatening complication occurring in 0.1-0.5% of patients with proven IM [1] . Emergency ultrasonography and CT-scan are helpful in detecting haemo-peritoneum, enlarged and ruptured spleen and can guide the surgeon in conjunction with the haemodynamic state of the patient to the appropriate management [3],[4],[5],[13] . Splenectomy remains the treatment of choice [1],[6] The main concern following splenectomy is the development of overwhelming post splenectomy infection (OPSi) [5],[7],[9] . This is a serious complication characterized by fulminant bacteremia, meningitis or pneumonia [14] . Hence, there is a trend towards nonoperative management or splenic preservation in splenic rupture to maintain the immune functions of the spleen and to avoid OPSI [4],[5],[6],[7],[8],[9],[10] . Several reports have indicated that non-operative management of SSR is successful, provided strict criteria of very close clinical monitoring including haemodynamic stability, serial CT examinations and minimal blood transfusion are followed [2],[4],[7],[8],[9],[10] If the splenic rupture is minimal and the general condition of the patient is good then splenorrhaphy can be attempted [5]. A useful guideline to manage splenic injury is to use the splenic grading system in which splenic injuries are divided into five grades (I-V) [15] .

Grade I and 11 injuries are managed by topical hemostatic agents, Argon beam coagulator or by mattress sutures over Teflon pledgets [16] . Grade III and IV injuries require partial splenectomy or absorbable mesh while splenectomy in indicated for Grade V injury [16] . Laparoscopic control of splenic injury with splenic preservation has been reported [17] . In our case, splenectomy was performed because we couldn't control bleeding by splenorrhaphy and secondly because of the possibility of high vulnerability of the enlarged spleen to rupture, either spontaneously or following trivial trauma. However, it is unclear why patients with IM rupture their spleens. One may postulate that this may be due to increased pressure within the spleen, activation of the virus, significantly enlarged spleen or to the histopathological changes that occur as a result of this illness.

In conclusion, SSR in infectious mononucleosis is a rare complication. Splenectomy is the traditional treatment. However, there is convincing evidence to adopt a non-operative treatment in carefully selected patients. Alternatively, splenic salvage is another modality of preserving the spleen based on haemodynamic stability, presence of other injuries and extent of splenic injury. These conservative measures were advocated to avoid the septic complications after splenectomy.

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References

1. Asgari MM. Begos DG. Spontaneous splenic rupture in infectious mononucleosis: a review. Yale-J-BioiMed 1997; 70: 175-82.
2. Chen CC, Hsiao CC, Huang CB. Spleen rupture in infectiour mononucleosis: report of one

case. Chung Hua Min Kuo Hsiao Erh Ko I Hsueh Hui Tsa Chih 1998; 39: 198-9.
3. Konings CJ. Misere JF and Dolman A. Pfeiffer's disease, not always the innocent kissing disease. Ned Tijdschr Geneeskd 1997: 1 41: 457-9.
4. Conthe P, Cilleros CM, Urbeltz A, Escat J, Gilsanz C. Spontaneous splenic rupture: surgical or conservative treatment]? An Med Interna 1997; 14: 625-6.
5. Barake H, Guillaume MP, Mendes da Costa P. Conservative surgical treatment of a spontaneous splenic rupture during infectious mononucleosis. Case report and literature review. Rev Med Brux 1997; 18: 381-4.
6. Gordon MK, Rietveld JA and Frizelle FA. The management of splenic rupture in infectious mononucleosis. Aust N Z J Surg 1995; 65: 247-50.
7. Guth AA, Pachter HL, Jacobowits GR. Rupture of the pathologic spleen: Is there a role for nonoperative therapy? J Trauma 1996; 41: 214-8.
8. Schuler JG, Filtzer H. Spontaneous splenic rupture. The role of non-operative management. Arch Surg 1995; 130: 662-5.
9. Paar WD, Look MP, Robertz Vaupel GM, Kreft B, Hirner A, Sauerbruch T. Non-operative management in a case of spontaneous splenic rupture in infectious mononucleosis. Z Gastroenterol 1995; 33: 13-4.
10. Galvez MC, Collado A, Diez F, Laynez F. Spontaneous splenic rupture during infectious mononucleosis. Resolution with conservative treatment. Enferm Infecc Microbiol 1995; 13: 440-1.
11. Broholm AL, Jans H. Infectious mononucleosis and the risk of splenic rupture. UgeskrLaeger 1995; 33: 4579-81.
12. Macleod J. Davidson's Principles and Practice of Medicine. 13t ^{h} edition. Churchill Livingstone 1981; 570.
13. Blaivas M, Quinn J. Diagnosis of spontaneous splenic rupture with emergency ultrasonography. Ann Emerg Med 1998; 32: 627-30.
14. Sabiston DC Jr, Lyerly HK. Sabiston textbook of surgery. W B Saunders Company 1997: 417.
15. Lipshy KA, Shaffer DJ, Denning DA. An institutional review of the management of splenic trauma. Contemp Surg 1996; 48: 330.
16. Wilmore DW, Cheung LY, Harken AB, Holcraft JW, Meakins JL. Scientific American Surgery Volume I. Trauma section 1996; 768-85.
17. Rizk N, Chapault G, Boutelier P. Laparoscopic splenic salvage in blunt abdominal trauma. Acta Chir Belg 1995;95: 202.

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