

SUCCESSFUL COMBINED LAPAROSCOPIC CHOLECYSTECTOMY AND APPENDICECTOMY IN A PATIENT WITH SICKLE CELL DISEASE

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Sickle cell disease is prevalent in the Eastern Province of Saudi Arabia. Like any other patients, the affected individuals present with various surgical conditions requiring surgical intervention with its attendant high morbidity and mortality. It is believed that minimally invasive therapy can reduce morbidity and mortality in this high risk group of patients.

We report a case of a patient with sickle cell disease who underwent successful combined laparoscopic cholecystectomy and appendicectomy.

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Surgery in patients with sickle cell disease carries high morbidity and mortality¹. These have been reduced by the recent introduction of minimally invasive surgery in this high risk group²⁻⁴. The safety of laparoscopic cholecyst-ectomy in such patients has already been established^{2,3}. However, the safeties of combined laparoscopic procedures have not been reported. We have recently carried out a combined laparoscopic cholecystectomy and appendicectomy in a twenty-five year old patient with sickle cell disease and symptomatic gallstones.

THE CASE

A twenty-five year old patient with sickle cell disease and symptomatic gallstones was admitted with sickle cell crisis. He was treated successfully with supportive measures, but five days later, he complained of right sided abdominal pain and a surgical opinion was sought. At this time, he was afebrile with a normal pulse. Abdominal examination revealed deep tenderness with a 3 x 4 cm right iliac fossa mass with minimal rigidity. Routine blood tests revealed no

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Leucocytosis, Hb S 90.1 %, Hb F 6.6 % and Hb A 0 %.

Abdominal ultrasound showed an appendiceal mass. He was treated conservatively with intravenous antibiotics and discharged home 4 days later.

He was readmitted 6 weeks later for interval laparoscopic appendicectomy and cholecystectomy. An exchange transfusion was performed preoperatively to reduce the level of Hb S to less than 50 %. The preoperative Hb S and Hb A were 47 % and 49.8 %, respectively.

The operative technique involved the insertion of an extra 10 mm trocar at McBurney's point after the extraction of the gallbladder using the standard technique. The laparoscope was then transferred to the epigastric port after

freeing some omental adhesions and appendicectomy was then completed as described by Pyrne et al¹⁵. The operative time was 75 minutes. The patient was discharged after 3 days and remained well up to 9 months later.

DISCUSSION

This case indicates the safety of combined laparoscopic procedures in patients with sickle cell disease, provided precautions to guard against the triggering factors (such as dehydration, sepsis, hypoxia, acidosis and hypothermia, predisposing to vaso-occlusive crisis) are adhered to and preoperative exchange transfusion is performed to reduce high HbS to a low level (usually less than 50 %) at which vaso-occlusive crisis cannot occur⁴. Like others, we have not employed exchange transfusion in preparation of our first 30 "sicklers" for laparoscopic cholecystectomy^{6,3}. However, as a result of a single mortality, we have adopted another policy. Our present policy is to perform preoperative exchange transfusion in any patient with very high HbS. Patients with sickle cell disease in the Eastern Province of Saudi Arabia have high HbF which is believed to play a protective role against vaso-occlusive crises. Nevertheless, this is not always the case as we experienced a mortality following laparoscopic cholecystectomy in a patient with high HbF who never had previous episodes of sickling crises³. Patient with high HbF often have persistent splenomegaly. It is important to be aware of this to avoid iatrogenic injury to the spleen during the induction of pneumoperitoneum and introduction of midline trochars^{3,4}.

Abdominal crisis in sickle cell disease mimics large number of emergency abdominal conditions causing diagnostic delay and confusion. Our patient developed acute appendicitis as he was recovering from sickle cell crisis. There is no convincing evidence that appendicitis is more common in sickle cell population.

The introduction of minimally invasive surgical techniques in management of some surgical conditions with which sickle cell patients may present, is found to be associated with lesser morbidity and mortality and the safety of such techniques especially laparoscopic cholecystectomy is well established^{2,3,6,7}. There have been no other minimally invasive operations described in sickle cell patients and we believe that this is the first case of successful combined laparoscopic procedures in a patient with sickle cell disease.

CONCLUSION

Laparoscopic procedures in sickle cell patients can be employed to minimize the potentially high morbidity and mortality associated with surgery in this high risk group of patients.

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