Acute Gastric Ulcer with Massive Upper Gastrointestinal Hemorrhage: An Autopsy Case Report

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Abstract— *The case fatality rate of acute gastric ulcer with massive upper gastrointestinal hemorrhage is high. We report a case of a 50-year-old male who admitted due to bleeding per urethra after he pulled out his catheter. He was managed for acute retention of urine secondary to benign prostatic enlargement but unfortunately, he was self-administering ibuprofen without the knowledge of his physicians. He started passing massive dark blood per rectum few minutes before he was certified dead. The autopsy examination showed massive gastrointestinal hemorrhage, acute gastric ulcer, shocked kidneys and benign prostatic enlargement.*

Keywords— Autopsy, acute gastric ulcer, massive upper gastrointestinal bleeding.

I. CASE REPORT

A 50-year-old male presented at the Emergency unit with complaint of bleeding per urethra of a day duration after he pulled out his catheter. He was catheterized two weeks prior to presentation due to acute retention of urine secondary to benign prostatic enlargement in the same Hospital.

On clinical examination, he was a middle-aged man, conscious in time, person and place. He was not in any obvious distress. He was mildly pale, anictericand had no pedal oedema. He was afebrile and with a pulse rate of 85bpm (Reference Value {RV} 85-145bpm). His blood pressure was 110/70mmHg and with a respiratory rate of 18 cycles per minute (RV: 12-20 per minute). The abdomen moved with respiration and was not tender. The liver and spleen were notpalpable and the kidneys were not ballotable. Other systems were essentially normal.

His laboratory work-up disclosed hemoglobin of 8g/dl (RV:11.5-16.5g/dl), leukocytes of 16.12 x 10^9/L (RV:3.5 – 10.0 x 10^9/L), platelet count of 157 x 10^9/L (RV:100 – 400 x 10^9/L), serum sodium of 142.6mmol/L (RV:135 – 155mmol/L), serum chloride of 101.8mmol/L (RV: 96 – 110 mmol/L), serum potassium of 3.8mmol/L (RV: 3.5 – 5.4mmol/L), serum creatinine of 78.2mmol/L (RV: 60 – 120mmol/L), serum urea of 3.7mmol/L (RV: 2.5 – 6.5 mmol/L). His urine culture and sensitivity revealed Escherichia coli organisms.

He received antibiotics, intravenous fluids and a pint of blood while he was hospitalized. His caregiver revealed he was on self-administered tablets of ibuprofen and at about thirty hours after admission, he passed massive dark blood per rectum and he was found to be severely pale. His hemoglobin was 6g/dl (RV:11.5-16.5g/dl). He was noticed to be gasping for breath and efforts at resuscitation was unsuccessful. He was certified dead 10 minutes after passing massive dark blood per rectum and the body was sent to the morgue for autopsy.He was managed as a case of urosepsis on a background benign prostatic enlargement and upper gastrointestinal hemorrhage.

II. AUTOPSY FINDINGS

The corpse weighed 65kg and measured 170cm in length, the body mass index is 22.5kg/m and during the external examination he is severely pale and jaundiced. The internal examination revealed no pneumothorax and all the internal organs are in their

normal position. The oral cavity and the oesophagus appear normal. The stomach contains a litre of blood mixed with friable reddish-tan coloured material. The mucosa appear grossly normal except in the antrum which shows a sharply demarcated ulcer with widest diameter measuring 1.2cm (see figure 1).

The floor is yellowish to reddish-brown in areas. The surrounding tissues appear red. The entire lumen of both small and large intestine contains about 2 litres of altered blood mixed with faeces. The small and large intestine shows no mucosal lesions grossly.

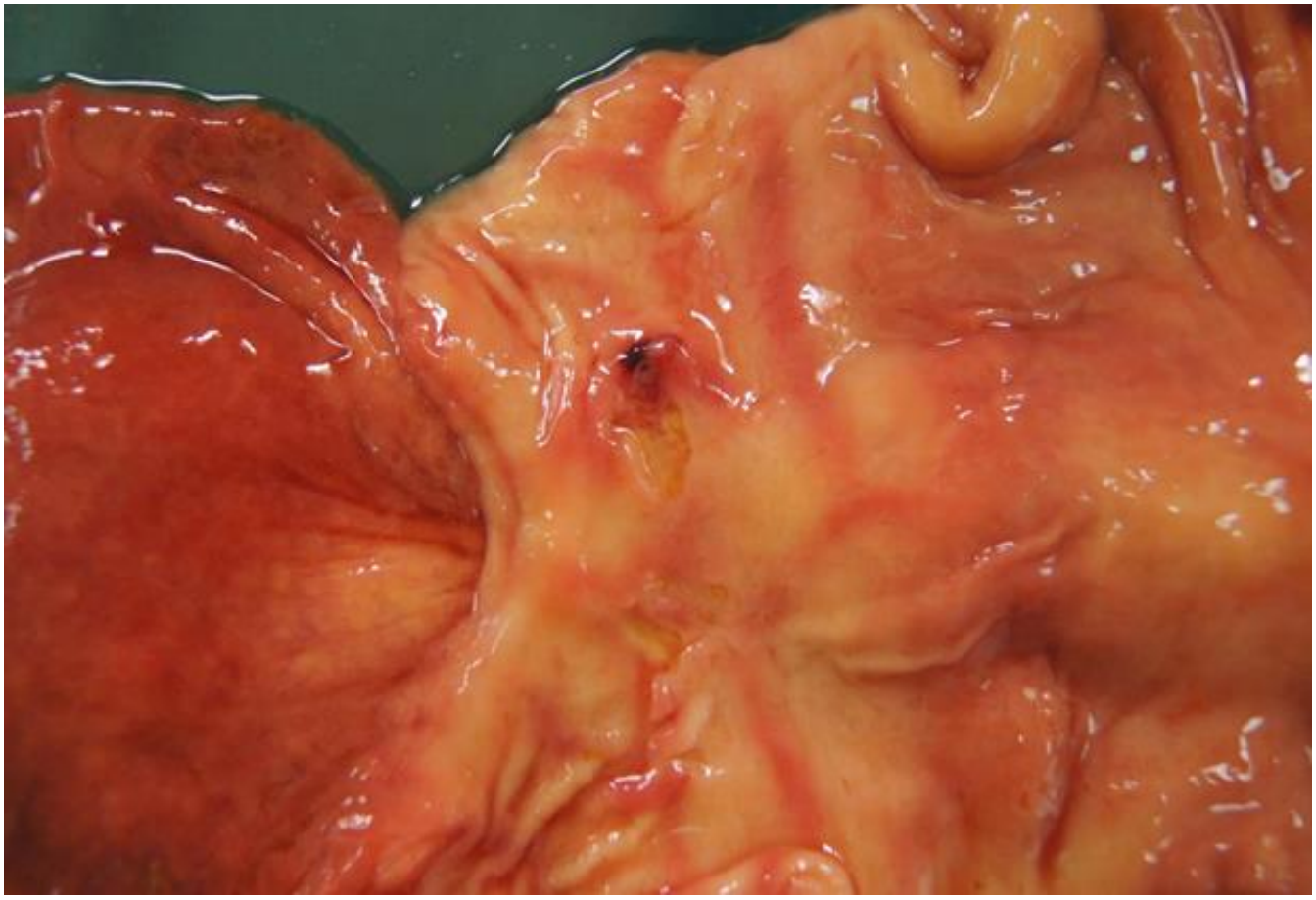

FIGURE 1: Showing a sharply demarcated antral ulcers.

The right kidney weighs 130gms while the left kidney weighs 120gms (normal is 120 -160gms). The capsules of both kidneys strip with ease and revealed a smooth and pale cortical surface. The cut surfaces of both kidneys show cortical pallor and a congested medulla. The cortical thickness of 7mm on the right and 8mm on the left (RV for each kidney: 7.0 –10.0mm). The medulla of both kidneys is similar and show normal appearing papillae and some adipose tissue within the hilium.The pelvicalyceal system of both kidneys appear normal. The ureter of both kidneys appears normal and empty into the bladder at the trigone bilaterally. The urinary bladder and urethra are essentially normal. The renal arteries show no stenosis. The prostate lies beneath the bladder and weighs 50gms (normal is 25 – 30gms). The cut surface is tan-white with well circumscribed nodules. The testes are normal and are in their normal anatomical positions. Other organs appear normal.

His histology from the stomach revealed mucosal ulceration. There are moderate to severe acute inflammatory cell infiltration of the subserosa, muscularis propria and the serosa. These features are consistent with an acute gastric ulcer. The histology of the right and left kidneys is similar and revealed patchy areas of necrosis of the tubular epithelial cells and eosinophilic cast in some of the tubules (see figure 2 & 3). The glomeruli, interstitium and vessels appeared normal. These features in the right and left kidney are consistent with acute tubular necrosis.

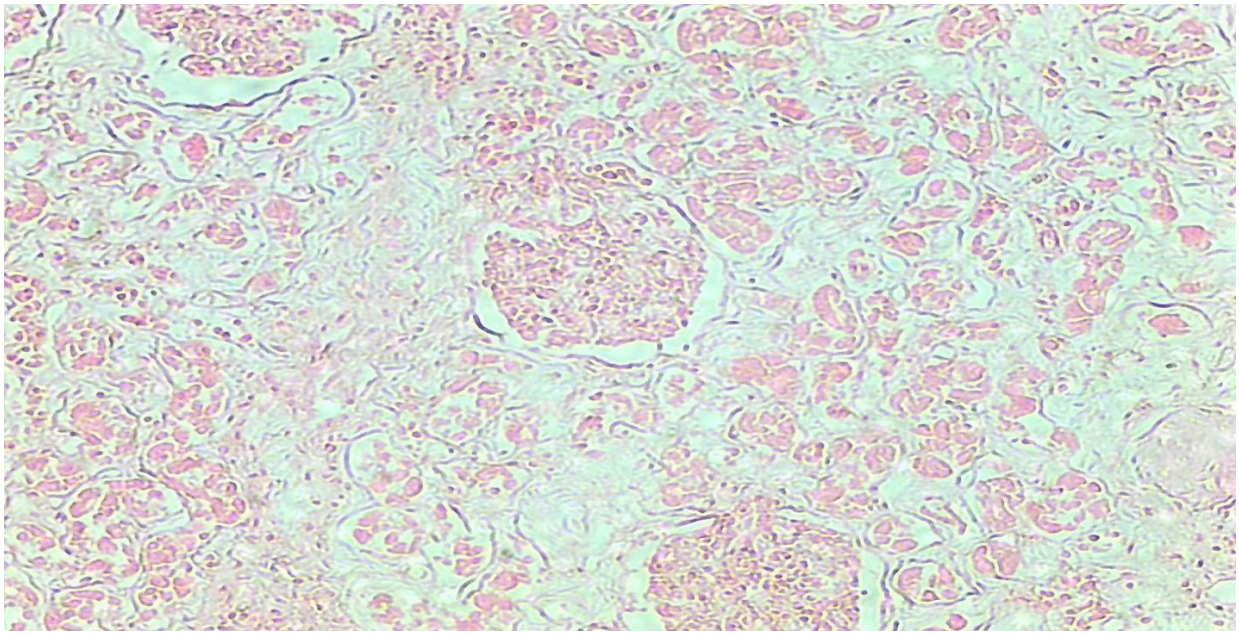

FIGURE 2: Photomicrography of the left kidney showing acute tubular necrosis (H&E, 400x)

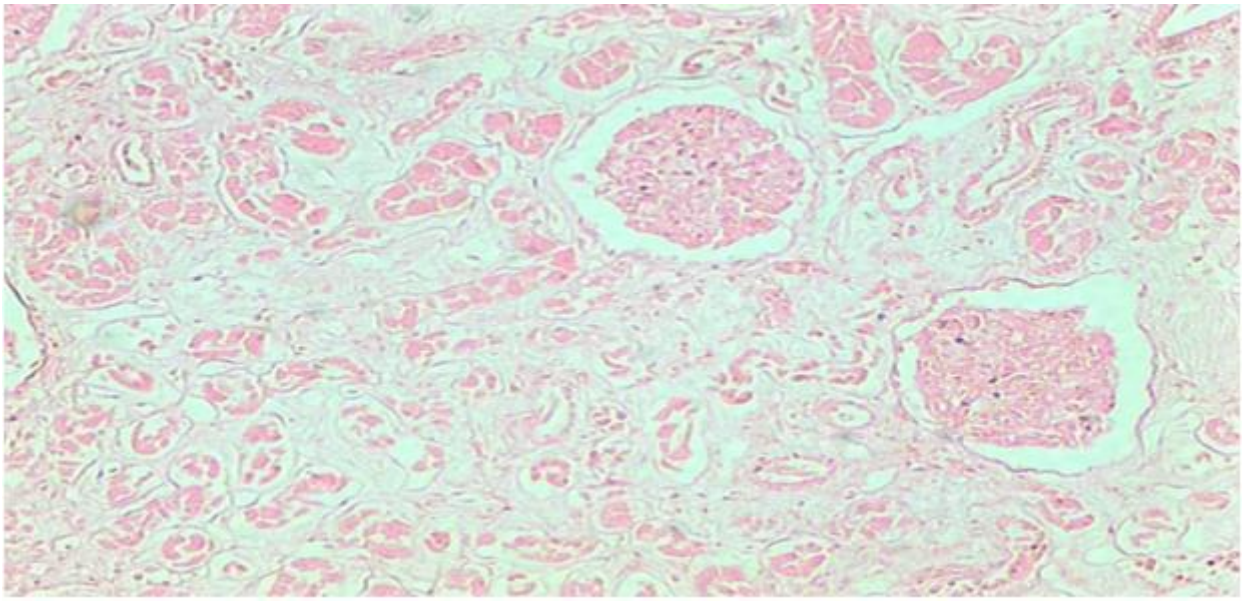

FIGURE 3: Photomicrography of the right kidney showing acute tubular necrosis (H&E, 400x)

The histology from the prostate shows variably sized glands arranged in nodular pattern. These glands contain corpora amylacea and lined by double layers of epithelial cells. These features are consistent with benign nodular hyperplasia. The histology of other organs revealed a normal morphology. The finding from the autopsy point towards massive upper gastrointestinal hemorrhage due to acute gastric ulcer.

III. DISCUSSION

In most cases, the post mortem finding of active gastric ulcer is usually a terminal event and this case is not contrary. It illustrates a fatal outcome of acute gastric ulcer in a middle-aged patient. The patient was been managed for acute retention of urine and ended up passing massive dark blood per rectum which was discovered few minutes before he was certified dead.

Acute gastric ulcer may also be seen during any debilitating illness, in sepsis, following surgery or trauma (stress ulcer), in patients with central nervous system injury or disease (Cushing's ulcer), as a complication of long-term steroid therapy (steroid ulcer), in association with aspirin ingestion, in patients with excessive burns (curling ulcer), as a complication of radiation therapy or hepatic arterial chemotherapy and following the introduction of tubes into the stomach.[1,2,3,4,5,] Also non-steroidal

anti-inflammatory drugs may also predispose to acute gastric ulcer[6] as was seen in this case. He was on self-administered tablet Ibuprofenwhich may have contributed to the onset and progression of the acute gastric ulcer either by any of or a combination of any of these mechanisms; 1) irritant effect on the gastric epithelial. (2) Impairment of the barrier of the mucosa. (3) Suppression of gastric prostaglandin synthesis. (4) Reduction of the gastric mucosal blood flow and interference with the repair of superficial injury.

The clinical history of passage of massive dark blood from the rectumshortly before he was certified died is consistent with the post mortem findings revealing a gastric ulcer located in the antrum. The post mortem findings revealing benign nodular hyperplasia is consistent with his history of retention of urine relieved by urethral catheterization. He died from massive upper gastrointestinal tract hemorrhage due to acute gastric ulcer.

IV. CONCLUSION

Acute gastric ulcer may become complicated due to massive gastrointestinal hemorrhage. In such scenarios the fatality rate is high and it carries ominous prognostic implication. The patient was admitted into the hospital, but he was self-administering non-steroidal anti-inflammatory drugs. This case highlights the importance of continuous and vigilant drug history review among patients on admission in a health facility. The postmortem examination was essential to clarify the cause of death.

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