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**DUODENAL PERFORATION WITH POST OPERATIVE COMPLICATIONS -  
CENTRAL PONTINE MYELINOSIS A RARE PRESENTATION: A  
MULTIDISCIPLINARY APPROACH IN MANAGEMENT**

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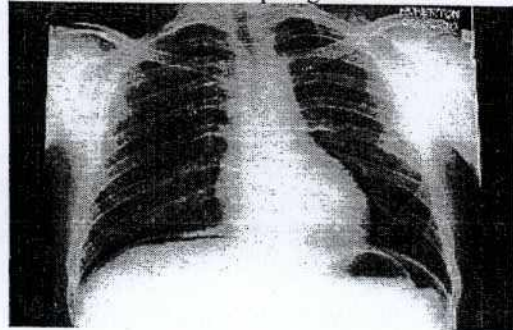
**Abstract**

An elderly male presented with classical complaints suggestive of perforated duodenal ulcer with peritonitis in shock. After hemodynamic stabilization and baseline workup, the patient was subjected to laparotomy. Per-operatively, the patient had to be started on inotropic supports. Immediate post operative, the patient had a cardiac arrest and was kept on ventilator and inotropic supports. Subsequently, the patient developed Central Pontine Myelinosis, ventilator associated pneumonia, wound dehiscence and bed sores which were managed accordingly. The patient was meticulously treated with a multidisciplinary approach and was discharged satisfactorily.

**Keywords:** Duodenal perforation; Central Pontine Myelinosis ; Multidisciplinary approach

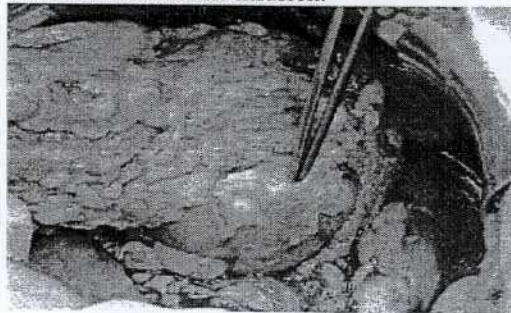
**1. Case Report:**

58 years old patient was admitted with 2 days history of abdominal pain and constipation. The colicky pain was generalized all over the abdomen with no aggravating or relieving factors. There was no history of vomiting/fever/decreased urine output or loose stools. The patient did not have any significant past history, though he was a chronic smoker & alcoholic. On Examination, the patient was conscious, oriented, in distress due to pain. Pulse rate was 80/min and systolic BP was 70 mm Hg. He had cold and clammy extremities. There was no Pallor, Icterus, Clubbing, Cyanosis, Lymphadenopathy or Edema. The abdomen was distended and umbilicus – everted. There was severe guarding and board like rigidity. Bowel sounds were absent. The patient was resuscitated and BP stabilized. Ryle’s tube and Foley’s insertion was done. X-ray erect abdomen showed air under the diaphragm.



**Fig-1 Erect chest radiograph showing free intra peritoneal gas**

The patient was taken-up for exploratory laparotomy and Graham’s patch repair was done for the 9 x 9 mm duodenal perforation after draining about 2.5 liters of purulent fluid. Per operatively, patient became hypotensive and was started on Adrenaline infusion.



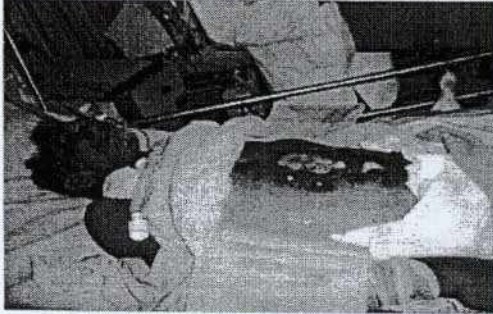
**Fig-2 : duodenal perforation**

Immediately, post-operative, patient had a cardiac arrest and was revived. The patient was continued on ventilatory support and inotropes. Pupils were sluggishly reacting to light.

Gradually, inotropes were weaned off. After three days patient was found to obey commands when asked to open eyes, but could not move the limbs. There was no facial weakness and plantars were mute.

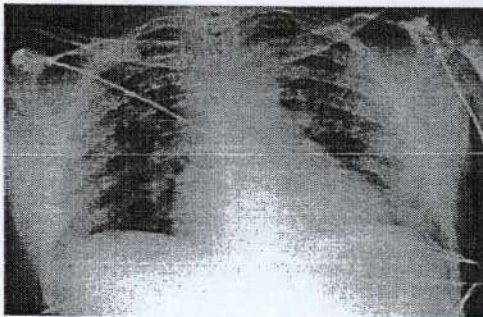
Neuro physician’s opinion was taken and cranial CT and EEG done which showed possibility of cortical damage in right region and structural lesion on the right side. The entire clinical picture of quadriparesis could be explained by Central Pontine Myelinosis, however repeated neuro-

imaging was not possible. Physiotherapy was started for quadriplegia. Ryle's Tube feeds were started and tracheotomy done after a week of surgery in view of prolonged intubation.



**Fig-3 patient tracheostomised**

Subsequently, patient developed Ventilator Associated Pneumonia and bedsores which were managed accordingly.



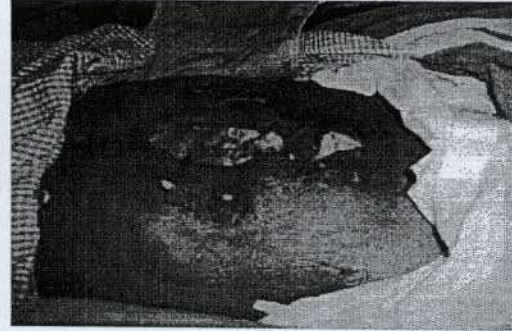
**Fig-4 X-Ray showing pneumonia**



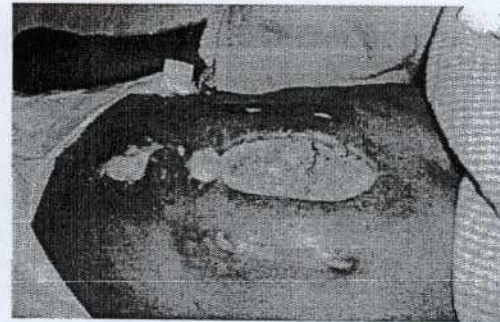
**Fig-5 Bed sores**

Gradually patient's condition improved. He started moving the limbs with regular physiotherapy and accidentally removed the tracheotomy tube by himself. As the patient was maintaining the saturation and vitals were stable, patient was not re-tracheotomized. Patient

developed wound dehiscence which was secondarily sutured under local anesthesia.



**Fig-6 wound dehiscence**



**Fig.7: abdominal wound healed**

All this while patient was given appropriate antibiotics, RT feeds, back care and other nursing care regularly. By two months, patient started developing phonation and started walking. Hence he was discharged satisfactorily.

## 2. Discussion

Perforated duodenal ulcer results in an operative mortality of 6% and most deaths occur as a result of complications in elderly patients with significant co morbidity<sup>1</sup>.

The time limit beyond which definitive surgery is likely to be hazardous is ill defined. Peri-operative shock, renal failure, delayed operative intervention > 12 hours; significant co-morbidities, advanced age; cirrhosis and immune-compromise have all been identified as risk factors for adverse outcome<sup>2</sup>.

In fact, delays of greater than 12 hours result in a three-fold increase in mortality, while delays of 24 hours are associated with a nine-fold increase in mortality<sup>3</sup>.

Post-cardiac arrest care is a critical component of advanced life support. Most deaths occur during the first 24 hours after cardiac arrest<sup>4</sup>. The best hospital care for patients with return of

spontaneous circulation after cardiac arrest is not completely known.

The absence of a papillary reaction to light suggests a poor prognosis but has unclear specificity when assessed early after a cardiac arrest<sup>5</sup>.

Computed tomographic (CT) images are usually normal immediately after a cardiac arrest, but by day 3 they often show brain swelling and inversion of the grey-white densities (with the use of quantitative measures) in patients with a poor outcome. Magnetic resonance imaging (MRI) has also been proposed as a means of assessing prognosis after cardiac arrest, but limited data call its use into question. It remains unclear whether electroencephalographic (EEG) findings have clinical use in predicting a poor outcome<sup>6</sup>. The prognosis of Central Pontine Myelinosis is overall poor. While some patients die, most survive and of the survivors, approximately one-third recover; one-third are disabled but are able to live independently; one-third are severely disabled<sup>7</sup>.

The comprehensive treatment of diverse problems after cardiac arrest involves multidisciplinary aspects of critical care, cardiology, and neurology. For this reason, it is important to admit patients to appropriate critical-care units with a prospective plan of care to anticipate, monitor, and treat each of these diverse problems. Given the emergence of potentially efficacious treatments for duodenal perforation, there is a need for multidisciplinary management of patients. Interaction between not only treating surgeons, but between supportive and ancillary services as well, lays the groundwork for a comprehensive treatment strategy that addresses the individualized needs of the patient. Communication and collaboration of the surgeons with the physicians, anesthesiologist, neurologist, and physiotherapist and of course the nursing staff represent key features of effective care in treatment of this case.

### 3. Conclusion

Age, delayed surgery, presence of shock, ASA risk and definitive surgery are factors significantly associated with fatal outcomes in patients undergoing emergency surgery for perforated DU. Therefore, proper resuscitation from shock, improving ASA grade, decreasing delay and reserving definitive surgery for selected patients is needed to improve overall results.

A multidisciplinary approach acknowledges the complexities of modern critical care and the important role of communication between health care providers in delivering comprehensive care.

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