

Short Communication

The Red Umbilicus Sign: What Adults Should Learn From Children?

Cyriac Abby Philips MD , Apurva Pande MD

Department of Hepatology and Transplant Medicine, Institute of Liver and Biliary Sciences

D-1, Vasant Kunj, New Delhi 110070, India

***Corresponding author**

Dr. Cyriac Abby Philips

Email: abbyphilips@gmail.com

Abstract: Small bowel perforation is a life threatening event. Clinically, it presents catastrophically as an acute abdomen and rapidly progressive multi organ failure in the absence of early diagnosis and management. In neonates and children, erythema of and around the umbilical region has been described as an ominous sign, that point toward direful intra-abdominal pathology. Here we present a similar sign (red umbilicus) in an adult cirrhotic, in whom early assumption led to swift diagnosis of intestinal perforation.

Keywords: bowel perforation, intestinal obstruction, cirrhosis, portal hypertension, acute on chronic liver failure, severe sepsis, multiorgan failure

INTRODUCTION

Gastrointestinal mucosal breaches can be due to peptic ulcer disease, inflammatory diseases, blunt or penetrating trauma, iatrogenic factors, or malignancies or foreign bodies. Correct identification of the location and cause of perforation is important for early salvage and definitive surgical planning and management. Symptoms are nonspecific and signs are similar to any acute abdomen. Diagnosis is usually clinched with imaging of the abdomen in the presence of high clinical suspicion. Perforations can also occur with clinical silence and maybe picked up only when the patient's clinical condition worsens with rapid onset multi organ failure. In this short review, we discuss the case of an advanced cirrhotic; who presented to us with obtundation, in whom, clinical evaluation was positive for umbilical erythema in the presence of peripheral signs of liver failure. We utilize this case to discuss the importance of the red umbilicus sign, an important pointer of catastrophic intra-abdominal pathology in neonates and children.

ONE CASE SCENARIO

A 45 year old man diagnosed as a case of decompensated alcoholic cirrhosis presented to our intensive unit with a two day history of severe abdominal pain, abdominal distension, obstipation and worsening jaundice, in grade 3 hepatic encephalopathy. Clinical examination revealed a poorly responding, pale and icteric patient with distended abdomen and redness in the umbilical region (Figure 1, Panel A) with wincing and distress on abdominal palpation. Immediate endotracheal intubation for airway protection was done an abdominal imaging performed. The contrast enhanced CT imaging revealed a cirrhotic liver with features of portal hypertension, in the form of ascites, multiple abdominal collaterals and splenomegaly with remarkable findings of mid jejunal perforation and air within the bowel wall (Figure 1, Panel B, yellow arrow). In view of advanced liver disease and high operative mortality, the patient was managed conservatively with bowel rest, continuous aspiration and broad spectrum antibiotics and hydration. In spite of all measures, the patient succumbed to the catastrophic illness after 28 hours of presentation.

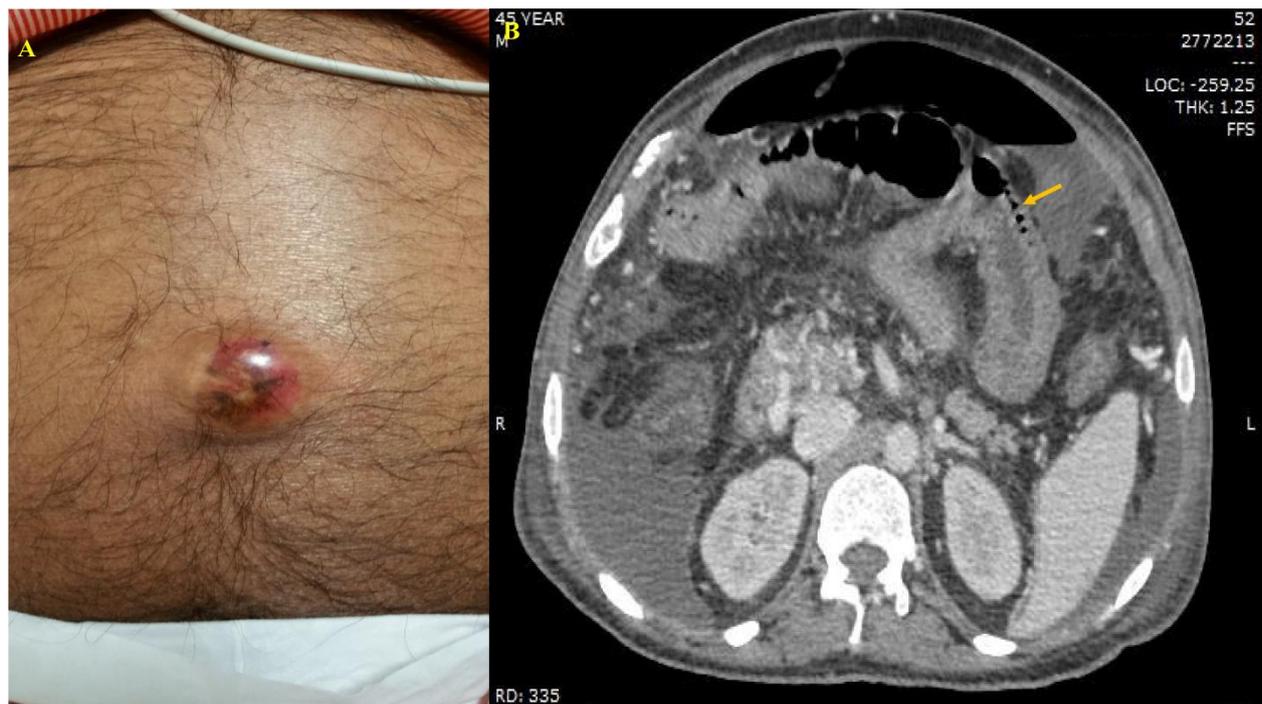


Fig-1: A – clinical evaluation showing the red umbilicus sign; B – contrast imaging of the abdomen showing free air in the jejunal wall, suggestive of perforation.

DISCUSSION

Red umbilicus is not a definitely described sign in adults, even though it has been shown to be associated with catastrophic gangrenous bowel disease or peritonitis in infants. Lin and Chang in 2007, had described this sign in a non-neonatal patient[1]. Adults with complicated umbilical hernia (strangulation or ulceration and rupture), especially in the setting of refractory ascites and cirrhosis can present with sudden skin changes overlying the hernia. But a true Red Umbilicus Sign should not be described in such a context. As seen in our patient, in the absence of herniation, the presence of redness in the umbilical region pointed towards a catastrophic intra-abdominal event. The causes of painful or painless red umbilicus in infants and children are many and described in detail by Richardson and colleagues[2]. However, in adults, very few authors have mentioned causes of red umbilicus - such as a metastatic deposit (known differently as Sister Mary Joseph's nodule) or ectopic endometriosis in women[3]. In conjunction with Lin and Chang's observation of the red umbilicus beyond the neonatal period, we feel that this sign, when seen as a new development in predisposed adults (such as those with splanchnic venous thrombosis) or in an adult presenting with an acute abdomen, should point towards a catastrophic bowel/secondary peritoneal disease and immediate steps in evaluation and management be undertaken.

REFERENCES

1. Chang YT, Lin JY; Red umbilicus as a clinical manifestation in a 19-month-old girl with typhoid

colonic perforation. *Kaohsiung J Med Sci.* 2007; 23(2):80-3.

2. Richardson LS, Singer JI, Buchino JJ; Painful, red umbilicus. *Pediatr Emerg Care.* 2004; 20(8):547-50.
3. Rossari S, Grazzini M, Savarese I, Longo AS, Oranges T, Gori A et al; A Particularly Bothersome Umbilical Nodule. *Indian Journal of Dermatology.* 2013; 58(4):330.