

Poster #: 43

Title of The MRI Manifestations of Acute Renal Cortical Necrosis

Abstract:

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Modality: MR

Organ System: GU

Intro: N/A

Purpose: N/A

Methods Used: N/A

Results of N/A

Abstract:

Discussion: N/A

**Scientific
and/or Clinical
Significance?** N/A

**Relationship
to existing
work** N/A

Purpose: 1. To review the pathophysiology of an uncommon renal condition, Acute Cortical Necrosis (ACN). 2. To demonstrate the MRI manifestations of ACN. 3. To explain the utility of MRI in diagnosing a potentially life threatening condition. **Content Organization:** ACN is a rare cause of acute renal failure and is usually characterized by significantly diminished renal arterial perfusion secondary to vasospasm, microvascular injury or DIC. It is usually bilateral and accounts for acute renal failure in less than 2% of cases. It is more commonly associated with obstetric catastrophes. We present a case of a 33 year old alcoholic Caucasian male coming to the emergency department with respiratory distress. He was found to be in severe metabolic acidosis and renal failure, and was promptly started on hemodialysis. An MRCP showed an abnormal right kidney with linear and laminar low signal intensity at the cortical medullary junction. This correlated with ultrasound findings of well delineated diminished echogenicity at the periphery of the renal cortex, sparing the medullary portions of the kidney, compatible with ACN. This patient illustrated a rare presentation of ACN firstly because he did not belong in the expected epidemiological group of pregnant women normally presenting with this condition. Secondly, this was a case of unilateral ACN, much less commonly seen than its bilateral counterpart. **Major teaching points:** 1. Interpreting radiologists need to be aware of the entity of ACN and its radiologic manifestations. Ultrasound typically demonstrates diffusely echogenic kidneys with loss of corticomedullary difference. MRI findings include decreased signal intensity of the cortex and columns of Bertin. 2. With the increased use of MRI for other conditions, ACN maybe an incidental finding in some cases. It is important to recognize the MRI manifestations of this condition, which have not been extensively published in literature.