NON-SPECIFIC AORTOARTERITIS PRESENTING AS ACUTE DECOMPENSATED HEART FAILURE IN CHILDREN: IMMEDIATE AND SHORT-TERM OUTCOME OF PERCUTANEOUS TRANSLUMINAL RENAL ANGIOPLASTY

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Sunday, April 03, 2011, 10:00 a.m.-11:15 a.m.

Session Title: Renal Dysfunction and Vascular Diseases
Abstract Category: 11. Peripheral Arterial/Carotid Disease/Aortic Disease
Session-Poster Board Number: 1009-103

Authors: Ramakrishnan Sivasubramanian, Sharath Kumar, Anita Saxena, Shyam S. Kothari, Sanjiv Sharma, Rajnish Juneja, Gurpreet Gulati, Priya J, Vinay K. Bahl, All India Institute of Medical Sciences (AIIMS), New Delhi, India

Background Non-specific aortoarteritis (NSAA) results in stenotic lesions of aorta and its major branches. We are reporting a series of children with NSAA presenting in acute decompensated heart failure due to isolated renal artery narrowing. Such a presentation is not recognized commonly.

Methods Twenty-three patients of NSAA with hemodynamically significant renal artery stenosis who presented in acute decompensated heart failure over a period of 3 years (2007 to 2010) were included in this retrospective analysis. Patients presenting with acute decompensated heart failure due to abdominal aortic narrowing were excluded. Three patients were intubated and mechanically ventilated for acute decompressed heart failure. These patients underwent a percutaneous transluminal renal angioplasty on an emergent/urgent basis. The acute procedural results, and improvements in clinical status and left ventricular function are reported.

Results The mean age of patients was 10.69 years (range 4 - 17 years). Hypertension was present in all of these patients, and all had significant left ventricular dysfunction with a mean left ventricular ejection fraction of 29.56%. Importantly, none of the patients had an established diagnosis of NSAA and most of them had palpable and equal peripheral pulsus. Procedural success with renal artery balloon angioplasty was 100% and no stents were used. The blood pressure fell immediately from 174/103.5 to 140/86 mmHg [P < 0.01] and the left ventricular ejection fraction improved from 29.5% to 36.7% [p = 0.07]. An immediate improvement in LVEF was seen in 11 patients and four of them had a normalization of LV ejection fraction. Importantly, all the patients survived and all of them had an improvement in clinical status. Twelve patients (52%) had evidence of disease activity as judged by established criteria.

Conclusion Isolated acute renal artery involvement occurs in NSAA and may lead to acute decompensated heart failure in children. A high index of suspicion is needed for the recognition. Angioplasty of the renal arteries is safe and successful, and aids in the recovery from acute decompensated heart failure.