

nose pain, general malaise, fever, headache, and tenderness over the perinasal area are the common symptoms and *Staphylococcus aureus* is the most common organism cultured from NSA. Infection of a septal hematoma, direct extension along the tissue planes as seen with sinusitis, infections of dental etiology and venous spread from the orbits or cavernous sinus may result in the development of a NSA. There is usually an inciting traumatic event causing rupture of the small vessels that supply the nasal septum. The hematoma formed separates the mucoperichondrium from the septal cartilage. Cartilage destruction follows as a result of ischemic and pressure necrosis. The static blood forms an adequate medium for bacterial growth and subsequent abscess formation(1). The drainage and immediate reconstruction of the nasal septum are the golden standard in the treatment of NSA(2).

The complications of a NSA include meningitis, saddle nose deformities, sepsis, bacteremia, and in younger patients maxillary hypoplasia. Staphylococcal scalded skin associated with NSA as noted in this boy is also rare.

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Prognostic Value of Early vs Late Steroid Resistance in Idiopathic Nephrotic Syndrome

We read with interest the editorial by Arvind Bagga on Steroid Resistant nephrotic syndrome (SRNS) in the January issue of *Indian Pediatrics*(1). The same issue also featured our experience with 136 biopsy proven cases SRNS over the last 12 years published as a "brief report"(2). We agree with the observation that the outcome of early steroid resistance (initial nonresponders - INR) is better than children who have late steroid resistance (secondary nonresponders - SNR). In our study we had compared children with Minimal Change disease with non-MCD subtypes. We had observed that the distribution of the number of children who were INR and SNR was similar in

the 2 groups. Hence we had commented that the better outcome in MCD was accounted for by the underlying histopathology, rather than the type of steroid resistance. We did not imply that the type of steroid resistance has no effect on the outcome and our results seem to have been misinterpreted. To further clarify this point we are reporting here a subgroup analysis of children with SRNS who were INR as compared to those with those who were SNR.

In our study of the 136 children with SRNS, 94 had early steroid resistance while 42 had late steroid resistance. They were treated with a variety of immunosuppressive protocols (intravenous cyclophosphamide, cyclosporine, dexamethasone). The mean age of onset of symptoms in INR was significantly greater than in SNR (9.4 + 5.05 vs 6.7 + 4.99 yrs, P=0.004). The clinical and biochemical features at onset

were similar in the 2 groups. Focal segmental glomerulosclerosis was the commonest histopathologic subtype in both INR (55/94) as well as SNR (25/42). However all the children with Membranous NS (n=6) as well as those with Mesangiocapillary glomerulonephritis (n=2) were INR. After a mean follow-up of 45.5 + 26.6 months, a significantly greater number of SNR children were in remission as compared to INR (29/42 vs 38/94, P=0.4). The mean serum albumin on followup was also significantly greater in SNR as compared to INR (3.2 + 1.0 vs 2.8 + 0.9 g/dL, P=0.04).

Hence, we reiterate that children with SNR have a better outcome as compared to children with INR. Further studies are required to analyze the confounding effect of histo-

pathology *i.e.*, whether children with MCD and INR have a better outcome than children with FSGS and SNR.

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Steroid Resistance in Idiopathic Nephrotic Syndrome (Reply)

The concern in the Editorial was promoted by the authors' inference, based on their observation, that primary and secondary resistance was unlikely to influence the outcome in terms of remission(1). Additional findings from the study, given above, affirm that despite almost similar renal histology, patients with late steroid resistance are likely to do significantly better than are those with initial resistance. These finding highlight the importance of distinguishing initial from late resistance while predicting long-term outcome in patients with nephritic syndrome.

Renal histology is also an important predictor of long-term outcome, as shown by Gulati, *et al.*(1). Biopsies should be evaluated carefully, by an experienced pathologist, for the type of focal segmental glomerulosclerosis (FSGS)(2) and presence or absence

of tubulointerstitial changes(3). Different histologic variants of FSGS have substantial differences in clinical features and in renal outcomes. Furthermore, patients with minimal change histology on renal biopsy may, after a few years, show histological transition to FSGS(4).

Finally, since both the pattern of resistance and renal histology seem to significantly impact the course of nephritic syndrome, it is important to determine whether these features are interrelated or represent independent predictors of outcome. In this context, reanalysis of the original data, by stepwise logistic regression, shall perhaps be more useful than the need for embarking on 'further studies' as proposed by the authors.

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