RARE SYNDROME WITH WT-1 GENE MUTATION

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6 years old female child, 2\textsuperscript{nd} born of non-consanguineous marriage presented with complaints of:

- Oliguria
- Abdominal distention
- Edema
EXAMINATION

- Child awake, alert
- Anasarca+
- Vitals stable
- Blood pressure of 100/70mmHg
- System Examination- normal
INVESTIGATIONS

- Urine: albumin +++
- Spot PCR: 48.1
- 24 hours urine protein: 10,300mg/dl
- RFT and Liver Enzymes: normal
- Serum proteins: 4.5, albumin: 1.8, globulin: 2.7gms
- USG Abdomen grade 1 RPD (RK-8.6, LK-8.2)
DIAGNOSIS

Nephrotic syndrome – 1ˢᵗ episode
TREATMENT

- Salt restriction
- Fluid restriction
- Steroids – T. Prednisolone 2mg/kg
- Diuretics – T. Furosemide 1mg/kg
Child did not attain remission even after completing 8 weeks of steroid.
RENAL BIOPSY

- Histopathology – suggestive of FSGS
- Immunofluorescence – insufficient tissue
MENDOZA REGIMEN

In view of SRNS child administered i.v. Methyl Prednisolone 30mg/kg od as infusion

18-12-2007 to 17-6-2009

Child had partial remission
To look for mutations leading to steroid resistance genotyping was done

Mutation in intron9 of WT1 gene

+4 C>T
KARYOTYPING

Considering **FRASIER SYNDROME** child was subjected to KT which revealed -XY
USG ABDOMEN

Uterus size 2.9cm
CT ABDOMEN
STERIOD RESISTANT NS

Mutation in intron9 of WT1 gene

FSGS

GENOTYPE

KARYOTYPE

CT ABDOMEN
DISCUSSION

Rare syndrome named FRASIER SYNDROME
Hereditary disorder of AD inheritance
First described in 1964 in monozygotic twins
Presentation
neonate – ambiguous genitalia
1st decade - nephrotic syndrome
2nd decade - delayed puberty
XY : normal female external genitalia, ambiguous genitalia
2 SIDES OF SAME COIN

WT GENE

INTRON

Frasier

EXON

Denys drash
CHARACTERISTICS

- Steroid resistant nephrotic syndrome - **FSGS**
- Progressive glomerulopathy leads to renal failure requiring dialysis and renal transplantation
- Dysgenetic gonads - at risk of **GONADOBLASTOMA** so bilateral prophylactic gonadectomy is necessary
PSYCHOSOCIAL ISSUES

- Difficult for parents to accept
- Gonadectomy ????
JASN in 1999 have described Frasier in 46XX female.
INCIDENCE

- Rare disease
- Incidence is not known
- AIIMS STUDY in April 2010
- No case report in Chennai
INFERENCE

All patients of steroid resistant nephrotic syndrome FSGS should be subjected for *Genotype* and *Karyotype* to diagnose this rare syndrome.
THANK YOU