

Acute Post Streptococcal Acute Glomerulo- Nephritis (APSGN)

Prepared by

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Acute Post Streptococcal

Acute Glomerulo- Nephritis (APSGN)

Definition:

APSGN is due to a non bacterial inflammation of the glomeruli secondary to group AB-hemolytic streptococcal infection of pharynx or skin.

Acute Glomerulo- Nephritis: is an immune-mediated inflammatory disease of the capillary loops in the renal.

Epidemiology:

- Age > 3 years, usually 5-10 years.
- Both sexes are equally affected.
- Occurs 1- 3 weeks after pharynx or skin infection.

Causes:

There is initial infection of upper respiratory tract (throat) or skin. Post infection of pneumococcal, streptococcal and viral infection.

The onset: clinical manifestation is between 10-14 days secondary to streptococcal pharyngitis. It occurs in winter and spring.

The initial sign of the disease is edema → in the morning → spreads during the day to the extremities and abdomen. The urine is cloudy smoky, brownish color and scanty in volume.

Clinical Manifestations:

I- Classical presentation

1) Edema:

Edema is manifested as periorbital puffiness, found in the morning. Some patient may have pedal edema and generalized edema.

2) Hematuria:

Smoky, red, tea - or cola colored urine. Most patients have oliguria.

3) Hypertension:

Sever hypertension may develop rapidly → headache, irritability, insomnia → hypertensive encephalopathy.

• These presentation may be accompanied by

- Mild fever.
- Headache
- Anorexia.
- Nausea & vomiting.
- Abdominal pain.
- Malaise.

II- Presentation by complications: -

*** Hypertensive encephalopathy:**

↑BP → arteriolar spasm → cerebral hypoxia → encephalopathy.

- Irritability.
- Headache.
- Vomiting.
- Blurred vision.
- Convulsions. This may be fetally.

*** Heart failure and pulmonary edema:**

This can be manifested by:

- Dyspnea.
- Orthopnea
- Pulmonary crepitations.
- Enlarged tender liver.

*** Acute renal failure:-**

The child may develop

- Sever oliguria.
- Metabolic acidosis.

- Vomiting.
- Anemia.
- Diarrhea.

The child may pass to:

- Drowsiness.
- Coma.
- Stupor
- Convulsions.

Diagnostic evaluation:-

- Urine examination
- Blood examination
- Throat swab culture
- Chest X ray

Prognosis:

- 1- Complete recovery in > 95% of cases.
- 2- Death form complications can occur if it not treated.

Treatment:

- 1- Hospitalization → to Monitor:
 - Body weight.
 - B. P.
 - Urinary out put and renal function.
- 2- Restriction of activity in acute renal failure or heart failure.
- 3- Diet → Restriction of protein, sodium, and fluid in case of acute oliguric phase for hypertension, Heart failure, and renal failure.
- 4- Treatment of streptococcal infection by antibiotic preferably penicillin
 - Cefadroxil: 30 mg /kg/ day orally / 10 days
 - Amoxicillin: 30 mg/ kg / day orally / 10 days.
- 5- Treatment of Hypertension

6- Treatment of heart failure and pulmonary edema.

- ↓Water & salt intake,
- Treat hypertension.
- Diuretics

7- Treatment of renal failure

Peritoneal dialysis or venesection (rapid withdrawal of 300 ml / blood) to reduce blood volume.

Nursing care:

- 1- Bed rest during the acute phase until Hematuria is stopped.
- 2- Keep the child in well-ventilated room.
- 3- Vital signs are taken frequently because sudden change may occur.
- 4- Observe medication of cerebral manifestation and put the child in a crib with gaits.
- 5- Intake and output chart
- 6- Fluid intake as ordered and the allowed amount should be divided through out the day.
- 7- Measure intake & out put carefully.
- 8- For edema:
 - Keep skin dry & clean.
 - Weigh child daily to detect any increase and it should be done at the same time.
- 9- Diet:
 - Regular diet in mild cases
 - Salt restriction in patient with hypertension & edema and restriction of protien .
 - ↑ Potassium to prevent cardiac decompansation
- 10- Accurate observation for:

- Vital signs.
- Intake & out put
- Child's urine.
- Edema.

11- Prevention of infection → Avoid contact with infected persons.

12- Allow the child to play activities according to his condition.

13- Health teaching to parent during discharge about:

- Diet & fluid
- Careful observation for urine.
- Activity as permitted.
- Medication given.
- Prevent infection
- Follow up.

References

- **Datta,P., (2020):** Pediatric Nursing, Chapter 19, P, 358 – 359.
- **Beevi, A., (2019):** Textbook of Pediatric Nursing, El Sevier, P; 304.