6. Title: Intravenous pyelographic studies of Urolithiasis patients admitted to Ubol Hospital during the period of 1967 and 1968

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OBJECTIVES

To find incidence of stone in different locations of urinary tract in patients admitted to the Ubol Hospital. It is hoped to find the relationship between bladder stone disease and stone elsewhere in the urinary tract which may shed some light on the initial site of stone formation.

DESCRIPTION

Patients who were clinically diagnosed as having urolithiasis, admitted to Ubol Hospital, were studied. Name, date of birth, age, sex, brief history and duration of illness, clinical signs and symptoms were recorded in a form specially designed for the study. Intravenous pyelographic study was performed in all patients and serial films were taken at 5, 15 and 30 minutes after the injection of opaque media (Urografin and Angio Conray 280). After the diagnosis of urolithiasis was confirmed by radiographic study, the patients were operated and in some cases of urethral stone, litholapaxy was performed.

PROGRESS

During the period of 14 months, 600 patients were studied. Thus far, only 400 films have been evaluated. Among these, 6 patients had no urinary calculi and 4 studies were unsatisfactory.

Sex, age and type of calculi are shown in Table 1. Eighty percent were calculi of the lower urinary tract, 16 percent were a combination of both lower and upper and only 4 percent were upper calculi.

Age distribution in patients with different locations of calculi is shown in Table 2. It could be said that calculi of lower urinary tract are more common in children; whereas, calculi of the upper tract with or without bladder stone are more common in adult. However, out of 390 cases, only 16 cases (4%) had upper calculi and three patients were under 1 year of age.

From our preliminary data, it is suggested that stone formation, as seen in Ubol, might start either in the lower or upper urinary tract.

Table 3 shows the incidence and type of anomalies of urinary tract system of 23 cases (6%). However, voiding cystogram has not been investigated in these patients. Therefore, obstruction of lower urinary tract could not be diagnosed. The anomalies, as shown in Table 3, do not appear to have any relationship to bladder stone formation.

Table 1

Sex, Age and Type of Calculi

Total cases 390

1. Male to female 17:1 (369:21)

2. Age
   - <1 Yr 25 (0.12%)
   - <5 Yr 180
   - 205 (53%)
   - 5–10 Yr 43
   - 248 (64%)

3. Type

   3.1 Lower calculi 311 (80%)
   - VC 270
   - VC + urethral 5
   - VC + prostatic 1
   - Urethral 35

   3.2 Lower and upper calculi 63 (16%)
   - VC + upper calculi 53 (renal 35, ureteral 6, renal + ureteral 12)
   - VC + urethral + upper calculi 5 (renal 5)
   - Urethral + upper calculi 5 (renal 3, ureteral 2)

   3.3 Upper calculi 16 (4%)
   - (renal 4, ureteral 8, renal + ureteral 4)

4. Anomaly of KUB system 23 cases (6%)

Table 2

Age distribution in patients with different locations of calculi

Locations*	Total No. of cases	Age (Yrs)						
		11/12-1	1–5	5–10	10–20	20–40	>40	not known
V.C.	270	16	148	31	14	27	32	2
V.C. + U.C.	5	—	2	2	—	—	1	—
U.C.	35	4	19	3	4	5	2	—
V.C. + R.C. + Ur.C.	53	—	10	7	3	16	17	—
V.C. + U.C. + R.C. + Ur.C.	5	1	1	—	1	1	1	—
R.C. + Ur.C.	16	3	1	—	—	5	7	—

* V.C. = Vesical, U. = Urethral, Ur. = Ureteral, R. = Renal

Table 3

Anomaly of KUB system 23 cases 6%

1. Absence of right kidney 5 cases.
2. Hypoplasia of :—
   - 2.1 right kidney 6 cases.
   - 2.2 left kidney 4 cases.
   - total 10 cases.
3. Double pelvis and ureter.
   - 3.1 right side 2 cases.
   - 3.2 left side 2 cases.
   - total 4 cases.
4. Ectopic of left kidney (inferiorly) 1 case.
5. Polycystic disease of left kidney 1 case.
6. Floating right kidney 1 case.
7. Diaphragm of left ureter 1 case.

(right kidney anomaly 13 cases)
(left kidney anomaly 5 cases)