A CASE STUDY

Renal Shut-Down (Uraemia)

By

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A male patient, engineer by occupation, aged 35 years, residing at Shahpur, Thana District, was admitted in the K.E.M. Hospital, Bombay on 28.6.67 with chief complaints of Anuria, Vomiting and Hiccups for five days.

While working in a tunnel in Shahpur on 23-6-67 the patient was bitten by large number of bees all over the exposed parts of the body. The following day, he had puffiness of face and oedema of both the extremities. He started getting frequent loose motions and vomiting within two hours of the bite associated with gripping pain. Stools were not blood stained. He had moderately high fever with rigors.

He was admitted in a private hospital where he was treated with intravenous fluids, antibiotics, Efcorlin and Antistine. He stopped passing urine following this incidence. As no improvement was seen for three days, he was transferred to this hospital.

Past History

No history of renal colic, haematuria, hypertension, diabetes or convulsions. H/o circumcision with dilatation of urethra done twelve years ago.

Personal History

Appetite good. Stools regular. Sleep good. Patient had vomiting four to five times daily after bite.

Family History

No history of hypertension or renal disease.

General Examination

Build and nourishment—average
Nails, conjuctiva —pink
Tongue hydration —good
Puffiness of face —++
Tonsils —normal
No lymphadenopathy
Jugular venous pressure—normal
No purpuric spots
No tremors

Sting marks all over the body most marked on the neck and face which showed evidence of cellulitis. Patient fully conscious.

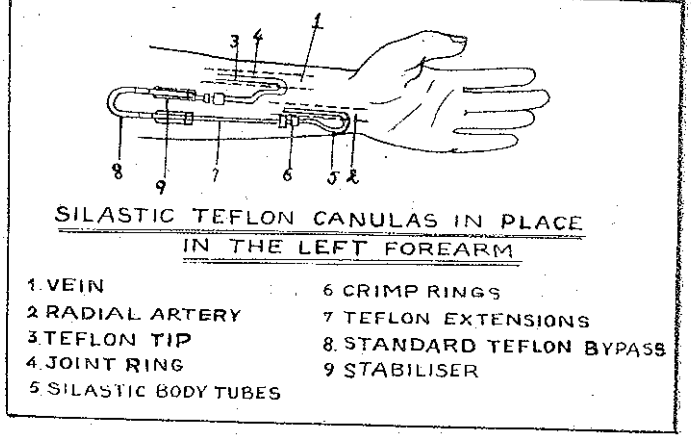
Temperature : 99° F. Pulse : 88/m. Resp. 22/m. Blood pressure—115/60 mm. of Hg.

Clinical Impression

"Acute renal shut down (uraemia) following bite".

It was decided to do a SCRIBNER'S SILASTIC TEFLON SHUNT to be used for repeated Haemodialysis (artificial kidney) as it was felt that the patient would need repeated dialysis. The shunt was done on the left forearm on 30-6-67 (See diagram 1). He was given 5 mg. of injection Sequil as premedication. After exposing about an inch of arterial segment radial artery about 1½ inches proximal to crease of wrist joint, the tip (No. 15) of left arm standard silastic was introduced in the artery. After joining the tip

DIAGRAM – 1



SILASTIC TEFLON CANULAS IN PLACE IN THE LEFT FOREARM

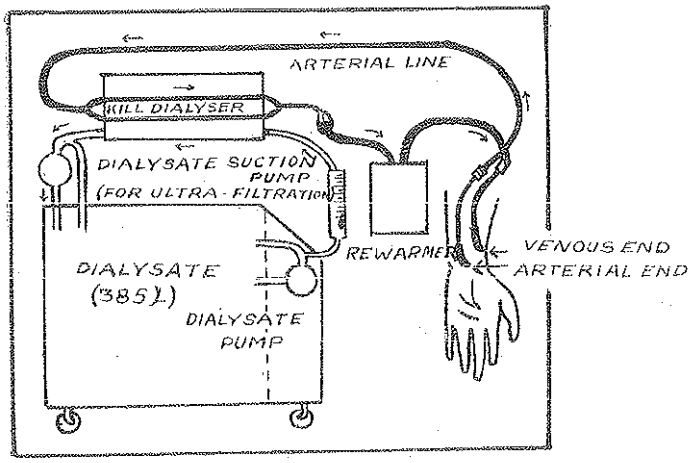
1. VEIN
2. RADIAL ARTERY
3. TEFLON TIP
4. JOINT RING
5. SILASTIC BODY TUBES
6. CRIMP RINGS
7. TEFLON EXTENSIONS
8. STANDARD TEFLON BYPASS
9. STABILISER

to arterial segment of silastic by means of crimp rings, the silastic was brought out from the medial side. Similarly vein was dissected and venous segment was brought out. To both the segments an extension of about 4 inches were connected. The extensions were stabilised with the help of 180° stabiliser and connected together by means of a Teflon "U".

As it was eight days since renal shut down and the blood urea nitrogen tested on 30-6-67 was in the order of 106.5 mg. %, the patient was taken for Artificial Kidney in Seattle System (See diagram 2). The flow of blood was good. The Dialyser was primed with 500 c.c. of blood. 200 c.c. of blood was given to the patient. Heparin was run at the rate of 2000 units

per hour (Heparin 1 : 10). The B.P. to start with was 110/65 mm. of Hg. Rate of Heparin was reduced to 1000 units per hour after 2½ hours. There was oozing from the wound. The heparin rate was cut down to

DIAGRAM – 2



THE SEATTLE ARTIFICIAL KIDNEY SYSTEM
(DIAGRAMMATIC SECTION)

500 units per hour. Dressing was changed. The clotting time was maintained at 1 hour. Heparin was run at the rate of 500 units per hour till the end of dialysis. The patient was comfortable throughout the procedure. B.P. was maintained at 115/60 mm. of Hg. However, he continued to bleed from arterial end of the wound. Dressing was changed again. The dialysis was continued for eight hours. Closure was easy. Injection Protamine was given locally at the site of the wound and also intravenously to check bleeding. He was sent to the ward after dressing, with the splint on the left hand. Intake during the day was 800 c.c. (Tea, coffee, glucose water) and the same amount of fluid was given for a few days. He passed 20 c.c. urine on 30-6-67. Specific gravity 1007, reaction acid. Albumin : trace, Sugar : nil.

The patient was dialysed seven times totally on following dates each time 8 hours : (1) 30-6-67 (2) 2.7.67 (3) 5.7.67 (4) 9.7.67 (5) 12.7.67 (6) 17.7.67 and (7) 8.8.67.

Each time during the dialysis he had rigor after blood transfusion.

Weight before second dialysis was 127 lbs.

Weight during 7th dialysis was 103 lbs.

Urine output on	2.7.67	— 20 c.c.
—do—	3.7.67	— nil
—do—	4.7.67	— nil
—do—	5.7.67	— a few drops passed in dialysis room.

Blood urea nitrogen on 5.7.67 was 56.25 mg. %. Creatinine 14.0 mg. %. Serum Sodium 142.0 mEq/L (Milli equivalents per Litre). Potassium 3.4 mEq/L. Chloride 105.9 mEq/L.

Urine output on	6.7.67	— 200 c.c.
—do—	7.7.67	— 60 c.c.
—do—	8.7.67	— nil
—do—	9.7.67	— 60 c.c.

After 4th dialysis on 9.7.67 the patient became breathless. Oxygen was given for a few hours and he was better.

On June 10, he developed slight mental changes. He was not talking but was fully conscious. Output—nil.

Urine output on 11.7.67—nil.

On June 12, urine output—160 c.c. He was fully conscious and answering to questions.

From 15.7.67 to 18.7.67 the patient had no vomiting and hiccup. Output was increasing gradually. Bowels moved regularly. He slept fairly well.

Urine output on 21.7.67 was 110 c.c. Specific gravity 1010, reaction acid, albumin, + Sugar—nil, Phosphates—nil.

Urine out put on 7.8.67 was 2000 cc. and intake 2500 cc. He was given milk 10 ozs., rice and sugar, restricted amount of salt, tea, coffee, chapaties made out of Bajri, glucose water, barley water and one egg daily from 7.8.67.

On 7.8.67 urinary urea was 400 mgs. Sodium 30 mEq/L. Pottassium 19 mEq/L, Chlorides 50 mEq/L.

On 8.8.67 the patient was taken 7th time for dialysis and was given two units of blood. He had severe rigor and backache. Temperature was 104°F, At the end of dialysis B.P. was 110/70 mm. of Hg. He continued to have high temperature.

On 9.8.67 he was having temperature and complained of giddiness and pain in lumbar region. Urine output was 300 cc. only, B.P. was 70/50 mm. of Hg. Injection Mephentine 30 mgs. was given.

On 14.8.67 he passed 2200 cc. of urine and his condition became better.

During the stay in the hospital he was given tablet Feronicum 1. B.D. and tablet vitamin C—500 mgs. O.D. for anameia. Tablet Dinabol 5 mgs. alternate days given for positive nitrogen balance. Cap. Chloromycetin 250 mgs. 6 hourly given for a few days as antibiotic when he had fever. Cap. Becosule 1 O.D. and injection Visyneral 2 cc. alternate days ; 10 injections were given as vitamin substitute. Temperature one hourly and B.P. two hourly were recorded. Intake and output were maintained. 24 hours urine was collected daily and measured. One sample of 24 hours urine was sent to laboratory on alternate days for examination. Midstream urine was collected and was sent for culture twice a week. The patient was given a cardiac bed and Dunlop Mattress. He was kept in a special room. Mouth care was given four hourly. He was propped up twice a day. Positions were changed every 2 hours. Dressing were changed on every alternate days.

He was discharged on 19.8.67 and advised to attend Artificial Kidney Department for follow-up. He was

(*Contd. on page 78*)