CLINICOPATHOLOGICAL CONFERENCE
St. Luke's Hospital, April 1970

In October 1969, professor V.G. Griffiths inaugurated monthly clinicopathological conferences at St. Luke's. We publish two of the cases presented at the April meeting. A guest participant was professor Linell, of the University Institute for Pathology, associated with the Almanna Sjukhuset of Malmo, Sweden, who was then visiting the medical school.

Professor V.G. Griffiths: Today's conference is on tumours of the kidneys and ureters.

Case presented by Mr. J.B. Pace.:

The patient was a man aged 64 years. In 1926, the patient then 26 years of age, contracted gonorrhoea. In Januaary 1956, he presented with difficulty in starting micturition, dysuria (burning at the end of micturtion) and increased frequency (D/N = 3/2). Urine was occasionally "smoky". The urinary stream was apparently normal. In February 1956, he was admitted to the medical ward (MMA) of "St. Luke's" for "acute pyelonephritis". In August 1956, he was referred to the surgical department (prof. A.J. Craig) for "Haemorrhagic cystitis? Calculosis". He gave a two-day history of "reddish threads" in turbid urine. On admission to the surgical ward (MS2), no clinical abnormalities were noted. The urine was turbid and contained traces of albumen and a small number of erythrocytes and polymorphonuclear leucocytes. Urine culture was negative. The haemoglobin was 90% and the W.B.C. count 8100/c.mm.

After a lapse of 11 years, in August 1967, he was in hospital again, having been referred to Mr. R. Attard's surgical unit for a "Mass R. loin — Enlarged kidney". Through the previous eleven years, the patient had had intermittent attacks of dysuria,difficulty in starting the act of micturition with intermittent stream, dribbling and passage of blood clots and, sometimes, with strangury. These attacks, recurring every 8 or 9 months, had been often accompanied by rigors and pyrexia. The patient's appetite and weight had remained unaltered. Three weeks before admission the patient had noticed a swelling in his right loin.

On examination, the man looked well although very thin. A mobile, tender, enlarged right kidney was palpable. Urine analysis and culture were negative; blood urea was 31/100 ml. Excretion pyelography was reported upon as follows: "No opaque calculi seen. Good concentration of the dye on both sides. The right kidney is larger than the left and there is displacement of the pelvis medialwards with disappearance of the calyceal system, suggesting neoplasm or cyst. Right ascending pyelogram is suggested" Right ascending pyelogram was refused by the patient, who again took his own discharge from hospital.

In January 1970, (that is 28 months later), the patient was readmitted (MS2 — prof. V.G. Griffiths) because of severe haematuria with passage of clots, intense hypogastric pain and dysuria. He had been complaining of a dull pain in the right flank for the previous 6 months.

On examination, there was some evidence of loss of weight, the pulse rate was 64/minute, B.P. 130/60. The chest was clinically normal. Examination of the abdomen revealed a hard, mobile mass, about 6 inches in diameter in the right loin, easily palpable from the anterior lumbar region of the abdomen and bimanually. The bladder was distended and the patient could not pass urine adequately. The clot retention was relieved by catheterisation and bladder washout, marked haematuria per-

sisting. Haemoglobin was 75%; blood urea 33 mg./100 ml. R.P.C.F., V.D.R.L. and Kahn tests were negative. Chest X-ray revealed no abnormalities. Cystocopy showed a possible papilloma (or blood clot) near the right ureteric orifice, but a good view was difficult to obtain owing to the presence of blood The presence of urethral stricture was excluded.

In view of the strong clinical and radiological evidence of right renal neoplasm, exploration of the right kidney was undertaken without delay. This was done on the 23.1.70, through a right paramedian incision. The presence of a large tumour of the lower twothirds of the right kidney was confirmed and a right nephroureterectomy was carried out (prof. V.G. Griffiths); the precaution was taken of ligating the renal vein at the outset.

The patient's recovery from the operation was uneventful and he was discharged home on the 10.2.70. When reviewed in the outpatients' department on the 17.2.70, he was found to be well and was asked to return in a month's time, but he did not turn up on the relevant date.

Prof. G. Xuereb: There are two points from the clinical aspect that I find worth noting: (1) that the history goes back to about $2\frac{1}{2}$ years before operation, and (2) the history of material extruding from the right ureteric orifice has a bearing on the results of examination of the specimen.

The specimen is the right kidney with a neoplastic mass arising from its middle third. It measures 12.5 cm. across, 12.5 cm. from upper to lower pole and 7.3 cm in depth. Externally some normal tissue is seen at both poles and a neoplasm is present affecting the convex border, growing more laterally than medially although the region of the hilum is also enlarged and occupied by tumour. Low power section of the pelvis shows a similar picture. Longitudinal section of the tumour shows typical yellowish-orange tumour tissue with areas of necrosis and haemorrhage, normal renal tissue being preserved at upper and lower poles. Microscopical examination shows clear-cell carcinoma with a papillary arrangement of tumour cells in some areas and with an acinar arrangement of carcinoma cells in other areas. The periphery of the specimen consists of a thin shell of compressed normal renal tissue. The tumour was growing into the renal pelvis; the renal vein and ureter were normal. Papillary tumours often seed into the lower ureter and the extruded material seen on cystoscopy may have been such a seedling.

Prof. Linell: The patient had many admissions to hospital. What was the matter with him in 1956?

Mr. Pace: In that year, the patient was referred twice — once for "pyelonephritis" and later, for "haemorrhagic cystitis". Thorough investigation had not been possible as the patient had left hospital at his own request, but it had been thought he had urethral stricture, though this diagnosis was not borne out by subsequent observations.

Prof. Linell: He may have had a tumour which regressed and later recurred in a more malignant fashion. This can only be a hypothesis, but partial regression in renal parenchymatous tumours has been shown to be possible.

Prof. Xuereb: We had been attributing his symptons to his past gonorrhoea.

Prof. Linell: He did not have a stricture at the last admission.

Mr. Pace: Perhaps the lesion was initially benign, an adenoma, which later underwent malignant change. Renal adenomas are known to be pre-malignant.

Prof. Linell: Many so-called adenomas are really carcinomas. Sometimes histological distinction between adenoma and papillary carcinoma is not possible.

Prof. Xuereb: Small adenomas are frequently seen at postmortem in older age groups; carcinoma is seen in younger people usually.

Prof. Linell: Adenomas over 2-3 cms. diameter are considered as carcinomas and, in fact, they sometimes metastasize. This causes one to consider adenomas as "carcinoma-in-situ", and the causes which bring about spread are not known.

Mr. Pace: This tumour must have been present in 1967 since there was then a palpable kidney and an abnormal pelvicalyceal pattern in the excretion pyelogram.

Prof. Linell: Renal arteriography at that time would have been helpful in diagnosis as it would have shown the abnormal arterial pattern caused by the presence of the tumour.

Prof. Griffiths: This case was presented at a recent clinico-pathological meeting as "an abdominal mass, probably carcinoma of the kidney". In 1967 the patient had an easily palpable mass and the tumour must have been there for a long time, although we cannot say if it had been there as far back as 1956. I had a case of carcinoma of the kidney filling three quarters of the abdomen with a 14-year history of haematuria. These tumours can exist for a long time without causing wasting or metastases and without local spread to prevent complete excision.

Cystoscopy, postoperatively, should now be carried out in view of the possible seeding of pelvic tumours in the lower ureter.

Mr. J. Muscat: Was a diagnosis of the type of carcinoma made prior to operation?

Prof. Griffiths: No.

Mr. Muscat: Can such a pre-operative diagnosis be made?

Prof. Griffiths: If the radiographic picture is that of pelvic tumour, one would be on the lookout for ureteric seedlings. It may be very difficult to be sure from pyelograms whether the tumour is arising from renal parenchyma or from renal pelvis.

Mr. Pace: Renal angiography might help in doubtful caases.

Prof. Linell: I do not think it possible for a differentiation to be made easily by renal angiography, although this investigation can be helpful in diagnosing the presence of a tumour when pyelography leaves us in doubt.

Case presented by Mr. J. Muscat.

The patient was a man of 50. He was admitted to St. Luke's Hospital on the 5th. February 1970 with a 10-year history of bilateral renal colic, pain in both loins radiating to the groins. There had been intermittent episodes of haematuria through the past 3 years, the last being 3 days before admission. There had been nocturia (3) but no dysuria, no hesitancy of micturition and no recent loss of weight. There was no past history of prolonged immobilisation in bed.

On examination: the patient appeared lean and his general condition was fairly good. B.P. 140/80, pulse rate 85/min. The respiratory system was clinically normal. Examination of the abdomen revealed only slight tenderness in the right lumbar region.

Investigations: Urinalysis on 5/2/70:

Colour — smoky, S.G. 1010; protein +, glucose absent; R.B.C. + + +, W.B.C. + +. Haemoglobin: 75%, W.B.C.: 16500/c.mm. Blood urea: 32 mg./100ml.

On 29/1/70: I.V.P. showed bilateral renal calculi; right kidney very poor function; left kidney hypernephrotic. On 10/2/70 the right kidney was exposed through a lumbar approach and was found to be enlarged, the lower pole being very hard and adherent. A nephrectomy was carried out. On 24/2/70 the patient was discharged, after an uneventful recovery from the operation.

Prof. Xuereb: This type of lesion we had not seen hitherto. The enlarged and distorted kidney, when sectioned, showed a hydronephrosis with a darkish calculus impacted in the mid-pelvis and a tumour at the lowermost loculus. The specimen measured 16.5 x 9 x 6 cm. The tumour did not have the usual appearance of the kidney; it was proliferative, papillary, firm and had a pearly appearance. Section showed squamous metaplasia of the lining of the calyces and a characteristic squamous cell carcinoma permeating the renal structures. The high power view showed typical malignant squamous cells. The whole neoplasm consisted of malignant-squamous cells with keratinisation, and the diagnosis was therefore squamous carcinoma of kidney pelvis associated with pelvic calculus and hydronephrosis.

Mr. Muscat: The patient is now in hospital with a bad infection of the other kidney to which he may well succmb. It was not possible to carry out investigations of calcium metabolism to establish the presence of hypercalcemia (because of lack

of the necssary facilities).

Prof. Xuereb: Professor Linell is it unusual to find such an extensive squamous carcinoma and do these tumours metastasize?

Prof. Linell: Squamous carcinoma in bladder and renal pelvis is not rare and is often combined with other kinds of carcinoma. The etiology of such pelvic tumours is now being postulated as due to phenacetin. In Sweden and Switzerland many people were found to die of uraemia after chronic ingestion of phenacetin. In the late 19th. century workers in a factory producing phenacetin/caffeine combinations were dying of uraemia after about 20 years. Among these patients with "phenacetin kidneys" there were large numbers of pelvic carcinomas. The phenacetin habits of patients with pelvic carcinomas are now being investigated to establish the truth of the matter or to dispose of tse idea.

Prof. Xuereb: What is the picture of "phenacetin kidney"?

Prof: Linell: Papillary necrosis and chronic intersitial nephritis. Formerly they were described in the U.S.A. and in Switzerland as "chronic pyelonephritis".

Prof. Griffiths: Why was the ureter left behind in this case?

Mr. Muscat: At the time of operation I was sure this was not a papillary tumour, as was subsequently proved. The patient had pain over the last 20 years. I do not know if he had taken any phenactein.

Prof. Linell: Obtaining a history of drug ingestion is difficult in most cases.

Prof. Griffiths: In winding up this meeting I thank all the participants, particularly professor Xuereb and the department of pathology. Our special thanks go to professor Linell for his most valuable contributions to the discussions.