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## Hypercalcaemia in primary squamous cell carcinoma of the stomach

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*Keywords:* hypercalcaemia; carcinoma, squamous cell; stomach cancer; pseudohyperparathyroidism

Hypercalcaemia associated with neoplastic disease is well recognized[1,2], and has potentially serious consequences if not corrected promptly. We report a case of primary squamous cell carcinoma of the stomach associated with hypercalcaemia, an association that seems not to have been reported previously.

*Case report*

A 59-year-old Negro male was admitted to hospital with a history of anorexia and upper abdominal pain. He had noticed significant weight loss (15 kg) in the preceding six months. On examination, he was poorly nourished, anaemic and lethargic. His abdomen was flat and soft with epigastric tenderness to deep palpation. A hard nodular mass was felt in the epigastrium. Liver and spleen were not palpable. Cardiovascular and respiratory systems were clinically normal.

Laboratory investigations the following day revealed a haemoglobin of 11 g/dl, haematocrit 33%, and white blood cells $7.4 \times 10^9$/l with normal differential count. Serum calcium was 11.9 mg/dl, phosphorus 1.1 mg/dl, albumin 2.9 g/dl, and alkaline phosphatase 160 U/l. Urea, creatinine and electrolytes were within the normal range. Bone marrow aspirate was normocytic and normochronic with no evidence of malignancy.

Chest and abdominal radiographic findings were essentially normal. Skeletal survey showed degenerative changes in the lumbar spine and there was no evidence of metastatic lesions. Abdominal ultrasound scan revealed an irregular, solid, pre-aortic mass. A diagnostic laparotomy showed a large tumour mass in the lesser sac intimately connected with the body of the pancreas. A punch biopsy of the tumour mass was non-diagnostic, showing a piece of fibrous tissue with non-neoplastic lymphoid aggregate.

Repeat laboratory investigations three weeks after admission showed serum calcium to be 13.4 mg/dl, phosphorus 1.6 mg/dl, albumin 2.3 g/dl, and alkaline phosphatase 145 IU. Two days later the patient had a cardiac arrest, and resuscitative measures were unsuccessful.

At autopsy there was an irregular tumour mass, $12 \times 10 \times 8$ cm in size, arising from the posterior wall of the stomach with mucosal ulceration. The cardiac end and pyloric antrum of the stomach were normal macroscopically and microscopically. The pancreas was normal and there was no evidence of metastatic disease in the lymph nodes, skeletal system and other organs. The parathyroid glands were normal macroscopically and microscopically. Multiple sections of the gastric tumour showed moderately differentiated squamous cell carcinoma (Figure 1). There was no evidence of glandular differentiation and special stains to demonstrate mucin were negative. The non-cancerous gastric mucosa did not show metaplastic changes. We believe that this tumour conformed to the criteria of primary squamous cell carcinoma of the stomach.

*Discussion*

Although gastric carcinoma remains one of the commonest gastrointestinal malignancies, primary squamous cell carcinoma of the stomach is extremely rare. The pathogenesis of this neoplasm remains obscure and controversial; several possible mechanisms have been postulated to explain its occurrence[3]. Fewer than 80 cases of primary squamous cell carcinoma of the stomach have been reported in the literature to date[4]. None of these cases, to our knowledge, were associated with hypercalcaemia, though it is possible that serum calcium levels were not evaluated.

Hypercalcaemia is not an uncommon finding in patients with neoplasms. It may have multiple causes, and may be present in the absence of osteolytic lesions. Some of the causes include ectopic production of parathyroid hormone, prostaglandin production and the release of osteoclast activating factor by the tumour cells[5]. Other factors, such as

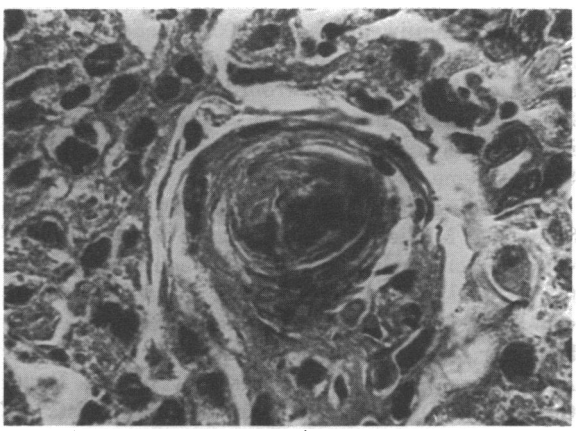

*Figure 1. Microphotograph of the gastric tumour showing squamous cell carcinoma (H&E × 400; reduced 70%)*

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production of vitamin D-like compounds and osteolytic steroids, may also play a role in some patients.

Hypercalcaemia in malignancy due to production of ectopic parathyroid hormone (pseudohyperparathyroidism) is being recognized with increasing frequency, and is usually associated with the histological type – either squamous carcinoma or squamous differentiation – rather than the site of the tumour[2,6,7]. To establish the diagnosis of pseudohyperparathyroidism, there should be no radiological or autopsy evidence of bony metastases, the parathyroid glands should be normal, and serum calcium and serum phosphate levels should resemble primary hyperthyroidism[8]. In our patient these criteria were established, and we believe the tumour may have been producing ectopic parathormone or similar material resulting in hypercalcaemia. Unfortunately, immunological techniques were not readily available at our centre to confirm this.

Hypercalcaemia in malignancy may be incidental and asymptomatic or may require urgent therapy[9]. It has potentially serious consequences if not identified and corrected promptly, as occurred in our case. More cases will need to be studied to clarify whether the occurrence of hypercalcaemia in squamous cell carcinoma of the stomach is a surprising finding or one to be expected.

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# Meeting reports

Report of meeting of Open Section, 6 October 1986

## The Savage case: what can we learn?

*Keywords:* professional competence, personnel management, obstetric practice, professional disputes

In the spring of 1985 Mrs Wendy Savage was suspended from her honorary consultant contract by Tower Hamlets District Health Authority, on the grounds of alleged professional incompetence. Fifteen months later, after an Inquiry convened in accordance with circular HM(61)112, Mrs Savage was found to have practised within acceptable professional bounds and was reinstated. The financial cost of the Inquiry exceeded £200 000 (enough to pay for, say, 65 hip replacements or over 200 cataract operations). Quite apart from the money, the non-financial costs imposed on everyone intimately involved (most of all Mrs Savage herself) must have been extreme.

In October 1986, the Open Section of the Royal Society of Medicine met to address the question of what we can learn from the Savage case for the future handling of professional disputes. The meeting was addressed by **Mr Christopher Beaumont**, the barrister who chaired the Inquiry, and by **Sir Anthony Alment**, past president of the Royal College of Obstetricians and Gynaecologists (of which Mrs Savage is a Fellow). Mrs Savage herself attended.

What we can learn depends above all on what kind of dispute this was. Was it essentially about professional competence, as it appeared on the surface? Or was it about differing schools of thought in obstetric practice (such as natural childbirth versus clinical intervention)? Or was it essentially about clashes of personality within an obstetric unit, and hence about the management of that unit? Of course, these three possibilities are not mutually exclusive. The dispute could have been – and probably was – to some extent about them all. But it was the last aspect, the clash of personalities, that provides the key to what happened.

Within the national (let alone international) diversity of obstetric practice, the differences in therapeutic approach between Mrs Savage and others practising at the London Hospital were relatively small. While she believes in patient autonomy and is a protagonist of women's rights, her clinical position is not extreme. And while her handling of at least one of the 5 cases examined by the Inquiry was open to serious criticism, of whom could not the same be said faced with their 5 worst cases?

Viewed solely as an adjudication about professional competence, the Inquiry, once it had commenced, can be held up as something of a model. The panel heard the evidence presented to it with patience, courtesy and fair-mindedness. Although there are no doubt lessons for the future in handling allegations of incompetence, these seem to have less to do with the actions of the panel than with what happened before the panel met. It seems extraordinary that approxi-

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