References

1. Bennett, M.R., O'Connor, H.J., Neuberger, J.N. & Elias, E. Acute polymyositis in an adult associated with *Mycoplasma pneumoniae* infection. *Postgrad Med J* 1990, **66**: 47–48.
2. Rothstein, T.L. & Kenney, G.E. Cranial neuropathy, myeloradiculopathy and myositis. *Arch Neurol* 1979, **36**: 476–477.
3. Belardi, C., Roberge, R., Kelly, M. & Serbin, S. Myalgia cruris epidemica (benign acute childhood myositis) associated with *Mycoplasma pneumoniae* infection. *Ann Emerg Med* 1987, **16**: 579–581.
4. Spillane, K. & Chessner, I.M. Recurrent myositis with infection (letter). *Postgrad Med J* 1990, **66**: 1087.

Tumouricidal effect of indomethacin in the oesophagus

Sir,

In a recent correspondence, we proposed that non-steroidal anti-inflammatory drugs (NSAIDs) possess tumouricidal properties in the colon.¹ We extend our hypothesis into another organ of the gastrointestinal tract, namely the oesophagus.

The NSAID indomethacin inhibits the growth and promotes regression of oesophageal tumours induced by oesophagotropic carcinogens in rodents.^{2–4} This beneficial effect may be related to the ability of indomethacin to inhibit prostaglandin (PG) formation,⁵ since oesophageal tumours produce excessive amounts of PGE₂.^{6,7} This PGE₂ may play a role in pathophysiological processes including tumour-related angiogenesis⁸ and depression cellular immunity.⁹ Tumour-derived PGE₂ may therefore further tumour growth and metastatic potential in the oesophagus.⁶ By contrast, NSAID inhibition of PGE₂ synthesis could be tumouricidal by reducing blood flow to the tumour coupled with enhanced immunorejection.⁹ Thus, indomethacin and other NSAIDs may possess tumouricidal properties in the oesophagus. Regular NSAID use may therefore reduce the risk of both colon¹⁰ and oesophageal cancer, the latter hypothesis requiring epidemiological confirmation. Of clinical interest would be the effect of NSAIDs on established oesophageal cancers.

G.P. Morgan
J.G. Williams

*School of Postgraduate Studies
in Medical and Health Care,
Maes-y-Gwernen Hall,
Morriston Hospital,
Swansea SA6 6NL, UK.*

References

1. Morgan, G.P. & Williams, J.G. Aspirin and risk of fatal colon cancer (letters). *Postgrad Med J* 1993, **69**: 893–894.
2. Rubio, C.A. Antitumoral activity of indomethacin on experimental oesophageal tumors. *JNCI* 1984, **72**: 705–707.
3. Rubio, C.A. Further studies on the therapeutic effect of indomethacin on esophageal tumors. *Cancer* 1986, **58**: 1029–1031.
4. Beshpalor, V.G., Troian, D.N., Petror, A.S. & Aleksandrov, V.A. The inhibition of esophageal tumor development by the use of the nonsteroidal and steroidal anti-inflammatory preparations indomethacin and dexamethasone. *Farmakologiya i Toksikologiya* 1989, **52**: 67–70.

5. Vane, J.R. & Botting, R.M. The mode of action of anti-inflammatory drugs. *Postgrad Med J* 1990, **66**(Suppl 4): S2–S17.
6. Botha, J.H., Robinson, K.M., Ramchurren, N., Reddi, K. & Norman, R.J. Human esophageal carcinoma cell lines: prostaglandin production, biological properties and behaviour in nude mice. *JNCI* 1986, **76**: 1053–1056.
7. Maeda, Y., Sasaki, T., Mochizuki, M. & Koike, M. Esophageal carcinoma with hypercalcaemia that appeared to be caused by prostaglandin E₂ production by the tumor cells. *Jap J Cancer Clinics* 1990, **36**: 2445–2449.
8. Attallah, A., Lee, J.B., Ambrus, J.L., Ambrus, C.M., Karakousis, C. & Takita, H. Prostaglandin E₂ production by human tumor: defense mechanism against the host? A preliminary report. *Res Commun Chem Pathol Pharmacol* 1984, **43**: 195–200.
9. Koyama, H., Narisawa, T., Kodama, M. *et al.* Potent effects of the prostaglandin synthesis inhibitor indomethacin on the cellular immune response in gastrointestinal cancer patients. *J Japan Soc Cancer Ther* 1989, **24**: 1027–1033.
10. Thun, M.J., Namboodiri, M.M. & Heath, C.W., Jr. Aspirin use and reduced risk of fatal colon cancer. *N Engl J Med* 1991, **325**: 1593–1596.

Squamous cell carcinoma of the scrotum in an aluminium worker

Sir,

In the late 1960s the approximate incidence of squamous cell carcinoma of the scrotum was calculated to be 0.2–0.3 cases per 100,000 men over the age of 35 years. Nevertheless, a decade later only 10 cases/year were detected in the USA.² The recent experience of the American Referral Cancer Centers can be summarized as one patient every 2–3 years.^{3,4}

Many factors such as race, social class, personal hygiene, and specially environmental factors must be taken into account if one tries to explain the epidemiological data of this neoplasm.⁵

A 54 year old male presented with two lesions, one on each side of the scrotum. The left one, located antero-laterally, was a 2.5 cm in diameter ulcer with seropurulent discharge. It was noticed 4 months earlier. The other, a 1 cm nodule, was placed medially in the right hemiscrotum and had developed during the last 3 weeks. Malignancy was suspected and complete excision with 1 cm margin performed. At surgery, multiple metallic shavings were discovered within the lesion. This finding was in consonance with his job as an aluminium worker. In fact, he gave a history of metallic dust all over his clothes and body every day. He denied any sort of contact with industrial oil for such product is not necessary to make aluminium windows. Previous exposure to paraffin, PUVA radiation, or any other chemical carcinogen was carefully ruled out. Histopathology revealed a well-differentiated squamous cell carcinoma not otherwise specified. After the histopathological diagnosis, a second excision was performed on both sides and no residual tumour was evident. Using Z-plasties the scrotal wall defect was easily closed. No inguinal lymph nodes were palpated and a computerized tomography scan revealed the absence of pelvic disease. Bilateral sentinel node biopsy performed a month after diagnosis did not reveal micrometastases. More than 3 years later the patient remains free of disease.

Scrotal carcinoma was the first occupational cancer

described by Pott in 1775 and has been known as 'Chimney-sweep's cancer'.⁶ Many years later, alkaline ether extract of chimney soot has been identified as the aetiological agent. Nevertheless, this is not the sole carcinogen involved in scrotal cancer for tar, paraffin, mineral oil and textile products have also been incriminated.^{1,7,8} Poor personal hygiene and mechanical irritation have been considered contributing factors.⁵ Psoriasis and exposure to psoralens and ultraviolet A radiation may also play a role.^{9,10} Finally, the association between human papillomaviruses and scrotal cancer has been demonstrated.¹⁰

Metal workers have been classically reported to suffer from this disease but always under direct exposure to industrial oil.¹¹ In the case we present only aluminium shavings were detected and the patient's history does not supply any other possible agent. This fact led us to set forth that local irritation by aluminium could be incriminated as an additional factor in the development of squamous cell carcinoma of the scrotum which has not previously been described. In this sense, definitive evidence for causation requires reliable epidemiological studies.

Javier C. Angulo

José I. López¹

Nicolas Flores

*Departments of Urology and ¹Pathology,
Hospital de Basurto,
48013 Bilbao,
Spain.*

References

1. Lee, W.R. Occupational aspects of scrotal cancer and epithelioma. *Ann NY Acad Sci* 1976, **271**: 138–142.
2. Doll, R., Payne, P. & Waterhouse, J. *Cancer Incidence in Five Continents*. International Agency for Research on Cancer, Lyon, 1976.
3. Andrews, P.E., Farrow, G.M. & Oesterling, J.E. Squamous cell carcinoma of the scrotum: long term follow-up of 14 patients. *J Urol* 1991, **146**: 1299–1304.
4. McDonald, M.W. Carcinoma of scrotum. *Urology* 1982, **19**: 269–274.
5. Lowe, F.C. Squamous cell carcinoma of the scrotum. *Urol Clin North Am* 1992, **19**: 397–405.
6. Pott, P. Chirurgical observations relative to the cataract, the polypus of the nose, the cancer of the scrotum, the different kinds of ruptures, and the mortifications of the toes and feet. In: Hawes, L., Clarke, W. & Collins, R. (eds) *Chirurgical Works*, Vol. 3. Longman, London, 1775, pp. 177–183.
7. Graves, R.C. & Flo, S. Carcinoma of the scrotum. *J Urol* 1940, **43**: 309–332.
8. Castiglione, F.M., Jr, Selikowitz, S.M. & Dimond, R.L. Mule spinner's disease. *Arch Dermatol* 1985, **121**: 370–372.
9. Stern, R.S. and Members of the Photochemotherapy Follow-up Study. Genital tumours among men with psoriasis exposed to psoralens and ultraviolet A radiation (PUVA) and ultraviolet B radiation. *N Engl J Med* 1990, **322**: 1093–1097.
10. Burmer, G.C., True, L.D. & Krieger, J.N. Squamous cell carcinoma of the scrotum associated with human papillomaviruses. *J Urol* 1993, **149**: 374–377.
11. Roush, G.C., Kelly, J.A., Meigs, J.W. & Flannery, J.T. Scrotal carcinoma in Connecticut metalworkers: sequel to a study of sinonasal cancer. *Am J Epidemiol* 1982, **116**: 76–85.