

This Week's Citation Classic

Wagner J C, Sleggs C A & Marchand P. Diffuse pleural mesothelioma and asbestos exposure in the North Western Cape Province. *Brit. J. Indust. Med.* 17:260-71, 1960. [Pathol. Div., Pneumoconiosis Res. Unit Council for Scientific and Indust. Res., Johannesburg, West End Hosp., Kimberley, & Dept. Thoracic Surg., Univ. Witwatersrand & Johannesburg General Hosp., S. Africa]

Primary malignant tumours of the pleura are uncommon. Thirty-three cases of diffuse pleural mesothelioma are described; all but one have a probable exposure to crocidolite asbestos (Cape blue). Most of the cases were exposed on the Cape asbestos fields. The tumour has not been observed in the other asbestos mining areas in South Africa. This paper demonstrates a new occupational hazard. [The SC® indicates that this paper has been cited over 240 times since 1961.]

J.C. Wagner
MRC Pneumoconiosis Unit
Llandough Hospital
Penarth, Glamorgan, Wales CF6 1XW

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"As with so many 'Citation Classics' the events that led to our 1960 paper were based on a series of coincidences.

"At the end of my student career at the University of Witwatersrand, I worked for six months on chest surgery with Libero Fatti and his senior assistant, Paul Marchand.

"In 1957, I was appointed Asbestosis Research Fellow at the South African Institute for Medical Research. South Africa was the ideal place to investigate the asbestosis problem, as it was the only country which produced the three main types of asbestos: chrysotile, crocidolite, and amosite.

"In 1958, I examined a black mine worker thought to have died of tuberculous pleurisy. I was astonished to find a large gelatinous tumour occupying the whole of the right chest. Vaguely, I recalled reading about mesotheliomas of the pleura but had never seen one. Some authorities denied their existence. I asked Basil 'Bunny' Becker for advice. He came to the mortuary and supported the diagnosis, and we did a meticulous study to exclude any other possible source of tumour.

"Dennis Munday, who is still my chief assistant, and I carried out a detailed study to establish that the tumour was a mesothelioma. We presented our findings at the next monthly meeting in chest medicine. Munday observed that 'asbestos bodies' were present in the lung tissue indicating

exposure to asbestos dust.

"The following day, Fatti went to Kimberley where he was approached by C.A. Sleggs, the superintendent of a new Tuberculosis Hospital. Tuberculosis was endemic and until 1952 when streptomycin became available, there was little effective treatment. By 1956, Sleggs had established some sort of control, but he observed that cases of tuberculous pleurisy from the east of Kimberley were responding to drugs, but those from the west were not. He asked Fatti to examine some patients and Fatti found features similar to those in the mesothelioma case I had presented in Johannesburg. He arranged for Marchand to take biopsies from the cases, and soon we had fifteen cases. Professor Paul Steiner from Chicago was visiting us and supported our diagnosis.

"We then considered the aetiology. Munday had found a few asbestos bodies in the first case, and also in two further cases. One hundred miles west of Kimberley were the Blue Asbestos Mountains, the world's principal source of the (blue) crocidolite asbestos. I suggested that crocidolite was implicated. Sleggs questioned the patients but none had worked on the asbestos mines. They included housewives, domestic servants, lawyers, a water bailiff, and road workers. It was Marchand who discovered that we had been asking the wrong question! Once we changed to asking whether they had lived in the vicinity of an asbestos mine, the situation became clear. Harold Stewart of the National Institutes of Health was visiting us and appreciated the international significance of the investigation, and encouraged the authorities to give us additional support. We were thus able to demonstrate that these tumours occurred only in those who had lived in the vicinity of the crocidolite mines and not in those associated with the chrysotile or amosite areas. When the paper was submitted for publication it was rejected, because eminent London pathologists stated that mesotheliomas did not exist. However, Professor Jethro Gough, at Cardiff, had seen the material and was able to persuade the editor to accept the paper."