

PLEURAL MALIGNANT MESOTHELIOMA AMONG RESIDENT POPULATION IN AREAS WITH NATURAL OCCURRING ASBESTOS ON CALABRIA-LUCANIA BORDER

TOMMASO MASSARO^{1*}, SAVERIO FIORE², SILVANO DRAGONIERI³, MARIA CARMELA GRIMALDI¹, SABRINA PISTILLO⁴, GABRIELLA CAUZILLO⁵, MARINA MUSTI¹

¹Uniba-Dimimp Sez. Medicina del Lavoro “B. Ramazzini”, Bari, 70124, Italy

²Istituto Metodologie Analisi Ambientale – CNR, Tito Scalo (PZ), 85050, Italy

³Uniba- Malattie dell’Apparato Respiratorio, Bari, 70124, Italy

⁴Uniba – Dipartimento di Chimica, Bari, 70100, Italy

⁵Regione Basilicata Dip. Salute, Sicurezza e Solidarietà Sociale, Potenza, 85100, Italy
massaro.tom@libero.it

The researches following the signalling of three Mesothelioma outbreaks occurred among people living in areas near to Lagonegro, Lucania, without any evident asbestos exposure, have led to the discovery of naturally occurring asbestos. The geologists group belonging to the Institute of Methodologies for Environmental Analysis of CNR, Tito Scalo (PZ), carried out the geological and mineralogical characterization of the southern area of Lucania, showing the presence of natural outcrops of serpentinite and metabasites rocks, containing tremolite (type of asbestos). The same group has carried out an in-depth monitoring of asbestos fibres in the airborne particulate, thanks to the use of SEM/EDS. The aim of the study was to assess the role of the exposure to naturally occurring asbestos as the cause of malignant mesothelioma in people living in Lucania area, polluted by tremolite fibres. Building on such analysis, outbreaks occurred in areas with natural outcrops of rocks containing tremolite were extracted from the Lucania Mesothelioma Register. For the selected cases, a thorough analysis about asbestos exposure was conducted. To date, the Lucania Mesothelioma Register accounts for 90 cases, 17 of which arose among people living in areas with outcrops of ophiolites. In 11 of these cases (9 men and 2 women), it was assessed a definite exposure to tremolite fibres; 2 cases were due to environmental exposure, while the remaining 9 cases were caused by working environment exposure in productive sectors as the construction, agriculture or farming ones. In these sectors, indeed, movements of the soil containing asbestiform minerals lead to occupational exposure to tremolite fibres above natural levels. Six cases were classified as unknown asbestos exposure.

Keywords: natural occurring asbestos, malignant pleural mesothelioma, environmental and occupational exposure