

Malattie mieloproliferative da uso di benzina come solvente: descrizione di tre casi

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KEY WORDS

Petrol exposure; myeloproliferative disease; benzene-induced leukaemia

SUMMARY

«*Myeloproliferative disorders due to the use of gasoline as a solvent: report of three cases*». **Background:** Health effects of occupational exposure to benzene are currently a problem, despite the fact that preventive measures have been in existence in Italy for more than 40 years. **Objectives:** To describe three recent cases of severe haematological disease presumably induced by an occupational exposure to benzene. Exposure occurred as a result of contact with ordinary automobile petrol used as a solvent-degreaser for metal parts. **Methods:** Clinical diagnosis was performed using standard immuno-phenotypic and morphological criteria; the hypothesis of an occupational origin was derived from analysis of the occupational histories. **Results:** The first case was a 59 year-old blacksmith suffering from acute myeloid leukaemia (AML) FAB M2, who had used petrol for 36 years to degrease the forged metal parts before painting them. The second was a 53 year-old mechanic with AML FAB M3 who had used petrol for 15 years to degrease mechanical parts of tanker motors. The third was an 82 year-old car mechanic suffering from idiopathic myelofibrosis since the age of 75, who had used petrol to degrease mechanical car motor parts for 42 years. In all three cases, the environmental hygiene measures necessary to limit inhalation or skin contact were not followed and, at times, in the case of the two mechanics, the petrol was siphoned by mouth; so there was substantial exposure to the 1-5% benzene present in the petrol. Latency of the disease was between 30-50 years from start of exposure, and between 3-17 years following cessation of exposure. **Conclusion:** The cases described indicate that the myelotoxic effects of benzene are still a problem. They were the consequence of improper use of petrol, due to total misinformation of the risks involved in such use. It is not possible to ascertain whether the cases presented are a casual aggregation or if the use of petrol as a solvent is more common than is normally believed; in the latter case two questions must be asked: is a "normal" occupational history able to discover such an uncommon risky condition of exposure? If it cannot, how many cases of benzene-related diseases escape aetiological diagnosis? It is not possible to provide precise answers but efforts should be made to improve the quality of information about the risks of petrol. Furthermore, in all cases of haematological disease potentially related to benzene, any form of contact with petrol, even if uncommon, should be carefully researched.

Pervenuto il 4.6.2004 - Accettato il 20.12.2004

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