Adenocarcinomas of Ethmoid Sinus on Wood Workers

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The relation between ethmoidal cancers and wood working has been established by MACBETH and ACHESON in ENGLAND since 1965 and this pathology is indemnified in ENGLAND as a professional disease since 1969 whereas in FRANCE this professional origin was officially admitted only in 1981.

Our experience is based on a statistical analysis of 225 cases of malignant ethmoidal cancers. Out of them, 116 are adenocarcinomas. Among these, 76 were observed on wood workers, while only 10 out to the other 109 malignant tumors were observed on wood workers. Thus, 90 % of wood workers victims of ethmoidal cancers have an adenocarcinoma.

Wood workers represent 37.5 % of all our ethmoidal cancers. Wood workers represent 65.5 % of our cases of ethmoidal adenocarcinomas.

The relationship between adenocarcinomas of ethmoidal sinus and wood working is clearly demonstrated.

Sex ratio

All our patients, excepted two, were men.

Average age : The average age of our patients is 62. But much more important is the date of the beginning of exposure to the risk. The average antiquity of this exposure is 36 years. But, we underline that this is not the duration of exposure to the risk. Many of our patients had stopped wood working for many years when they were affected by the cancer.

Which professional are mostly concerned ? in our 86 cases of ethmoidal cancers on wood workers we have : 35 joiners, 38 cabinet makers.

That is to say 73 cases of our 86 cases. Workers affected to transformation of wood in closed locals are especially exposed to that pathology.

This risk is considerably less important for wood workers working outdoors : carpenters,

sawyers.

The action mechanism of the wood is not perfectly known. Several factors have been implicated : The size of the dusts of the wood and especially small dusts, richness in tans of the wood and especially exotic wood, hydrocarbide produced by the work of the wood.

Do other professions induce a risk of ethmoidal cancer ? The risk for leather workers has been underlined by Acheson (26 cases reported) ; especially for tanners or shoemakers. We have only 5 cases among 225 cases. Nickel working predisposes to that pathology (62 cases reported by DOLL et MORGAN). We have no experience of that etiology. Workers in textile factories are exposed to a risk of that kind of cancer. But, if CODWELL and RAND had reported 20 cases, 4 only, of our patients, were workers in the textile industry, which is not significant.

Oppositely, if the major professional risk of ethmoidal cancer is wood working, other intolerances towards wood are not precancerous manifestations : 6 only of our 86 patients were allergic to wood dust, 6 others had a pollinic allergy without relation to wood. This leads us to suppose that, perhaps, sneezing, eliminates wood dust and is a prevention toward late cancerization.

CLINICAL SYMPTOMS : We do not want to insist on clinical symptoms of ethmoidal cancers, which are not specific in professional origin : nasal obstruction is present in 62 % of cases, epistaxis in 72 % of cases, ophthalmological symptoms are various : exophthalmia : 20 %, palpebral oedema : 14 %, watering eyes : 6 %, oculomotor paralysis : 14 %. Tomographies show the importance of osteolysis, and infection of ethmoidal or frontal sinuses. But, they must absolutely be completed by computerized tomography to emphasize the possible intracranial extension.

Treatment : All our patients had been operated by paralateronasal surgery : ethmoïdectomy with resection of higher part of nasal septum, opening and checking of frontal and spheno idal

sinuses and, if necessary, combined intra cranial and transnasal approach. In our professionnall adenocarcinomas, survival rate has been : one year : 75 %, two years : 66 %, five years : 35%.