Silicosis is a disease due to exposure to the dust of crystalline silica (SiO2) which occurs after intense exposure, sometimes of short duration, at high concentrations. The stone cutting business was originally developed by young workers of the district of T’kout (population 12300,1998 census), Algeria, there is twenty years ago. These, itinerant workers ply their trade in the majority of cases among particulars without any affiliation to social security agencies, making them difficult to count. The purpose of this study is to determine the features of the cases of acute silicosis among stone cutters of the area of T’kout and complications related to this disease.

Methods

• A retrospective study about 71 cases of severe silicosis with pathological diffuse pattern chest radiograph, recruited by the department of pneumophisiology, EPH Batna, between 2005 and 2015.

Results

• All subjects were stonecutters artisans whose work was the cutting and the sanding of the stone allowing the creation of genuine art forms for residential facade decoration.

  • Population
    Mid age: 30 years.
    Extremes: 22 – 43 years.

  • Number of hospitalizations
    ✓ 2X hospitalizations: 14 patients (19,71%)
    ✓ 3X hospitalizations: 9 patients (12,67%)

  • Complications
    ✓ 14 patients (19.71%) had more than one complication

1. Pneumothoraces: 29 patients

![Diagram of Pneumothoraces]

Evolution of the 11 cases with MDR Silicotherculosis:

• Sputum smear negatif for three cases after third line anti TB treatment
• Sputum smear positif for four cases which 1 XDR TB
• 5 deaths(17.24%)

2. Tuberculosis (TB): 29 patients

![Graph showing different types of TB]

3. Respiratory infections: 9 cases (13%)
4. Chronic pulmonary heart: 2 patients, installation after 4-6 years of occupational exposure.
5. Acute renal failure: 1 patient had developed an extracellular glomerulonephropathy
6. Systemic diseases: 5 subjects

- Caplan colinet syndrome (3 cases),
- Eryhematos lupus (1 case),
- Erasmus syndrome (1 case)
- The radio-functional progression disorders has been extremely rapid in these autoimmmute diseases associated with silicosis

Comments

Our study shows:

• The severity of occupational exposure to silica dust without protection.
• The high association cases of silico-tuberculosis and progression toward resistance to therapeutic usual drugs.
• The great frequency of occurrence of pneumothorax in our patients complicating their respiratory functional status.
• Lethality in our series remains high. It involved 15 patients (21,12%). The death was secondary to multidrug-resistant tuberculosis in 5 cases, the pneumothorax (6 cases) and respiratory failure in 3 cases.

Conclusions

Inhalation of large quantities of microscopic particles of silica dust, with no protection, promotes the early onset of the disease in its rapidly fatal acute form.

References