Supplementary Data

Methods

Computed tomography analysis

CT images were reviewed and interpreted in consensus by PYB (radiologist with a 15 year experience in ILD) and YU at CPA diagnosis. CT was performed on sixty-four patients in supine position at the end of a suspended full inspiration with or without administration of intravenous contrast medium., according to usual chest protocols. In all cases, helicoidal or sequential slices reconstructions were available (thickness < 1.5 mm).

Fibrotic lesions were classified into 4 patterns according to Absehra et al.: bronchial distortion with or without masses, linear patterns or honeycombing (1). Total disease extent was rounded the nearest 5% and the relative proportions of the individual patterns, contributing to the total disease extent were estimated to the nearest 5%. The presence and extent of the following patterns were based on the Fleischner Society's glossary of terms for thoracic imaging (2) with some minor modifications were evaluated for the entirety of both lungs: 1) fibrosis defined as criss-cross linear opacities (reticulation) with or without honeycombing (air-filled cystic spaces with irregular walls deemed not to be distracted airways), 2) ground glass opacities defined as increased parenchymal density with preservation of the bronchial and vascular markings, with or without superimposed very fine texture but no obvious reticulation, 3) alveolar consolidation, defined by a homogeneous increase in pulmonary parenchymal attenuation 4) honeycombing, defined by clustered cystic air spaces, typically of comparable diameter on the 3-10 mm range. Observers have also mentioned the presence or absence of traction bronchiectasis and the presence or absence of emphysema. The main pulmonary artery diameter (MPAD) and ascending aorta diameter (AAD) have been assessed in CT scans at CPA diagnosis.

CT were also reviewed at one year and for deceased patients in the three months before death.

CPA classification was based on recent guidelines (3). Aspergilloma was defined as an upper-lobe, round or oval intracavitary mass, partially surrounded by a crescent of air. Chronic cavitary pulmonary aspergillosis (CCPA) was defined as one or more pulmonary cavities possibly containing one or more fungus balls or irregular intraluminal material. Chronic fibrosing pulmonary aspergillosis (CFPA) was defined as severe fibrotic destruction of lung parenchyma with major loss of lung volume. Subacute invasive aspergillosis (SAIA) was defined by variable radiological features including

cavitation, progressive consolidation with “abscess formation”, occurring over 1-3 months.

Aspergillosis investigations

Aspergillus IgG antibody test were performed from the serum of 64 patients at baseline as a part of diagnostic procedure and subsequently to monitor treatment response. Detection techniques included indirect hemagglutination (Fumouze Diagnostics, France) or ELISA (Platelia™ *Aspergillus* IgG, Biorad, France) assays for screening, and precipitins assays such as immunoelectrophoresis or co-electrocineresis, or more recently immunoblot (*Aspergillus* Western Blot IgG, LDBIO Diagnostics, France) as confirmation tests. Mycologic cultures were performed on sputum (n= 47) or on bronchoscopy aspiration (n=44). Galactomannan assays were also performed in the sera of 34 patients (Platelia™ *Aspergillus* IgG, Biorad, France). Positivity was defined by two tests > 0,5. Antifungal susceptibility testing (Etest®, Biomérieux, France) was realized at clinicians demand.

Results

Taking into account the emergence of new azoles like voriconazole around 2000, we found interesting to compare survival according to CPA diagnosis time (before or after 2000). Kaplan Meier survival was not different between the two periods (see figure below).

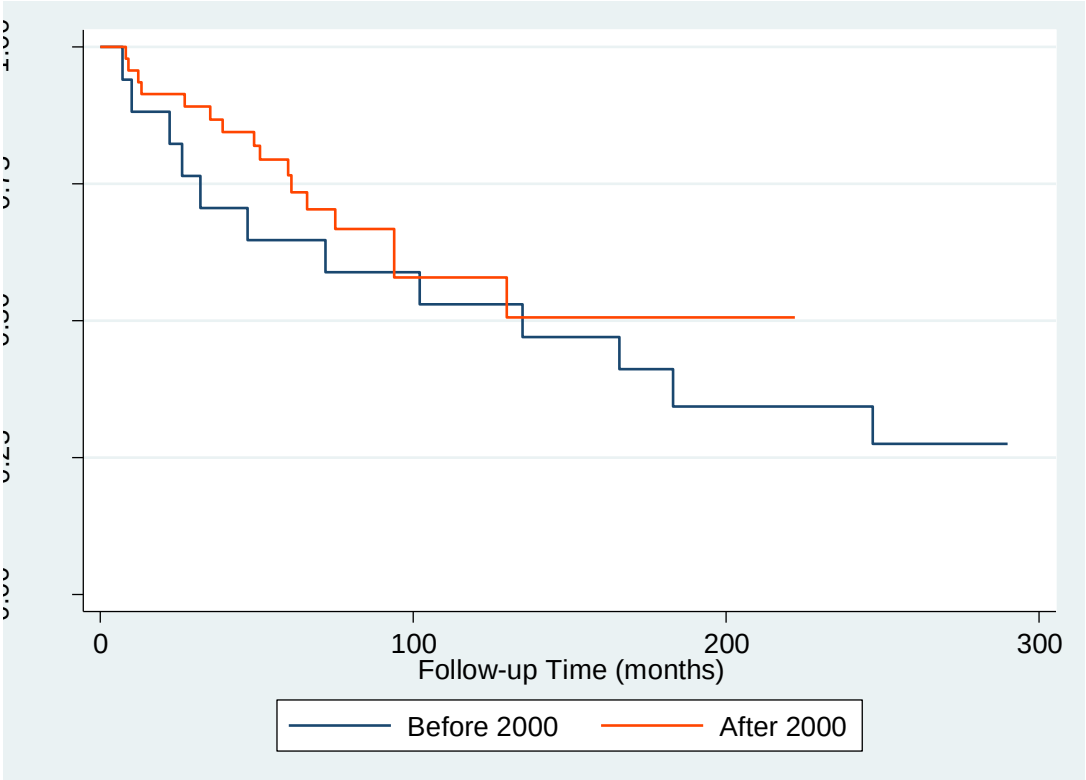

Figure: Kaplan Meier survival time of CPA patients diagnosed before 2000 and after 2000.

References :

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2. Hansell DM, Bankier AA, MacMahon H, McLoud TC, Muller NL, Remy J. Fleischner Society: glossary of terms for thoracic imaging. Radiology. 2008;246(3):697-722.
3. Denning DW, Cadranel J, Beigelman-Aubry C, Ader F, Chakrabarti A, Blot S, et al. Chronic pulmonary aspergillosis: rationale and clinical guidelines for diagnosis and management. The European respiratory journal. 2016;47(1):45-68.