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Reliability of the Minimum Basic Data Set as an Epidemiological Tool in Tuberculosis☆

Fiabilidad del conjunto mínimo básico de datos como herramienta epidemiológica de la enfermedad tuberculosa

To the Editor,

Tuberculosis is currently the leading cause of death due to infectious disease in adults worldwide.[1] Although its incidence is decreasing in our setting, it remains a significant health problem and disease surveillance is still necessary.[2] However, there is no single source of information that definitively records all cases of tuberculosis, since significant underreporting has been detected in the Spanish Notifiable Diseases reporting system.[3]

One of the objectives of the Minimum Basic Data Set (MBDS), a data system used to collect information on hospital morbidity, is to facilitate the conduct of research studies.[4] Its validity depends on the availability of a full clinical report and correctly recorded variables, and, as demonstrated by studies performed in Spain, the reliability of the data contained in the registry is not guaranteed.[5] However, it is easy to access, so several authors have studied its usefulness in epidemiological studies in diseases that are managed in hospitals, included tuberculosis disease.[6–9]

The aim of this study was to determine the reliability and usefulness of the MBDS for conducting studies in tuberculosis. To this end, we performed a retrospective study between 1994 and 2013, consulting the MBDS of the Soria Healthcare Complex that encompasses the entire province of Soria. The search was based on International Classification of Diseases (ICD-9-CM) diagnostic codes between 010.00 and 018.96 for active tuberculosis in any anatomical site, both for the primary and the secondary diagnosis. Mycobacterial records from the Microbiology Laboratory of the Soria Healthcare Complex and cases of tuberculosis notified to the Spanish Notifiable Diseases system were also consulted. The clinical records of all patients who were listed in the 3 registries were then reviewed, using the criteria described by the National Epidemiological Surveillance Network (RENAVE) for cases with clinical and/or laboratory diagnosis of tuberculosis.[10]

A total of 336 patients were recorded in the MBDS with a diagnosis of tuberculosis disease during the study period. After review of the clinical records, 69 patients (20.5%) listed in the MBDS were found not to have tuberculosis. In more than half of these patients (59.4%), the disease had been suspected at the time of discharge, but the diagnosis had been subsequently ruled out on follow-up. In the remaining cases, clinical records revealed that 15.9% of patients were receiving tuberculosis prophylaxis and that 17.3% had a previous history of tuberculosis, situations that were not included in the diagnostic codes selected for the study. Another 7.2% were coding errors not associated with tuberculosis. Eight patients died in the emergency department, for whom multiple possibilities were coded, and in 5 cases, no clinical records were found, so the diagnosis could not be confirmed.

In all, 347 patients with true tuberculosis disease according to the RENAVE criteria and who figured in any of the 3 sources (MBDS, mycobacterial records of the Microbiology Laboratory, and the Notifiable Diseases system) were detected. A comparison of the registries showed that 93 of the patients with tuberculosis disease did not appear in the MBDS, accounting for 26.8% of all patients with tuberculosis detected in the province using these 3 records. On the other hand, 41 patients (11.8%) appeared exclusively in the MBDS, and did not figure in the other registries.

The individual registry that showed the greatest sensitivity, contributing most patients (78.6%), was the Microbiology Laboratory mycobacterial records. This was followed by the Notifiable Diseases system, with 77.5% of patients: only patients for whom the year of diagnosis there were obligation to notify the disease were considered. Finally, the MBDS contributed 73.1%.

The use of the MBDS in the study of tuberculosis theoretically provides access to interesting epidemiological data, but data need to be reliable if conclusions are to be drawn and trends are to be forecast. Since this registry is based on the discharge report, cases that are diagnosed *post hoc* do not appear, and, in contrast, cases that are later ruled out are included. Furthermore, errors in data entry also detract from the reliability of the registry. Results obtained in this study show that only 254 patients of the 336 included in the MBDS registry could be considered as tuberculosis cases, according to RENAVE criteria, so the positive predictive value of this registry was 75.5%.

According to these results, the epidemiological data associated with tuberculosis disease obtained from the MBDS alone are highly questionable, and the clinical records of each patient must be reviewed to confirm the diagnosis. The combined use of several registries, comparing and completing the cases provided by each one, gives a clearer pictures of the real data.[9,11] Indeed, 11.8% of the patients detected only appeared in the MBDS, since for these patients neither microbiological confirmation was available nor had they been notified.

A simpler approach would be to use only 2 data sources: the MBDS combined with the microbiological records. This approach, after the review of the clinical records, would have detected 98.5% of the patients included in this study, considerably simplifying

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the job. The epidemiological survey stored in the Epidemiological Surveillance Data System (SIVE) has been available online since 2007, so it is now also very easy to access. In our series, the MBDS registry in combination with the Notifiable Diseases system retrieved 90.4% of the study patients. Other registries not included in our study that may have been interesting to evaluate are pathology laboratory or drug dispensing records, this would have led to the detection of more cases, reducing even further the sensitivity of the MBDS.

In conclusion, we believe that the epidemiological data on tuberculosis that can be obtained from the MBDS correlates poorly with the real epidemiological situation. However, until a completely reliable registry of all patients is available, it can be of great benefit if used in combination with other records.[3]

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Lymphomatoid Granulomatosis: A Rare Tumor with Poor Prognosis☆

Granulomatosis linfomatoide: una neoplasia infrecuente de mal pronóstico

Dear Editor,

We report the case of an asymptomatic 72-year-old woman with no significant clinical history, in whom a lung mass with smooth outlines measuring 5.1×4 cm was observed in the right lower lobe during a routine CT. Micronodules were also found in the right upper lobe and left hemithorax (Fig. 1). PET showed pathological tracer uptake in the right lower lobe (SUV maximum: 34.36), suggestive of malignancy. Functional tests showed moderate restriction. After 2 nondiagnostic cytology specimens were obtained, a diagnostic right lower lobectomy was performed.

The macroscopic examination revealed a firm, nodular, whitish mass measuring 5.2 cm in its longest diameter. Microscopic study found a multinodular tumor with areas of necrosis, consisting of a heterogeneous lymphoid population of atypical large B cells (CD20 positive), with more than 20 cells per high-power field, with an accompanying background of small T lymphocytes (CD3 positive). The neoplasm presented an angiocentric, angiodestructive pattern. In situ hybridization for the Epstein–Barr virus (EBV) was positive (Fig. 1). These histological and immunohistochemical findings supported the diagnosis of lymphomatoid granulomatosis grade 3. The patient received an initial cycle of immunochemotherapy, but died 4 months after diagnosis.

Lymphomatoid granulomatosis, first described in 1972 by Liebow et al.[1] is a very rare type of extranodal lymphoma with a highly characteristic angiocentric, angiodestructive pattern. It typically affects more men than women (2:1), particularly in the 3rd–5th decade of life, and is more common in Western countries.[2]

Clinically, it normally involves both lungs. Cough, dyspnea, and chest pain are the most typical symptoms, and may be accompanied by fever, weight loss, etc. Renal and skin involvement may occur, and central nervous system involvement, seen in up to 53% of cases, is noteworthy.[3]

The most characteristic radiological sign is pulmonary nodules that affect the middle and lower lobes. Other signs include central necrosis and/or cavitation, air bronchogram, and a ground glass appearance. It is occasionally diagnosed incidentally, so this lymphoproliferative process should always be borne in mind during the diagnostic process.[4]

Histologically, this is a diffuse large B cell lymphoma associated with EBV, which shows predilection for the blood vessels (angiocentricity). It is included in the new 2016 WHO lymphoma classification under the category of diffuse large B cell lymphoma (DLBCL) not otherwise specified (NOS) associated with EBV.[5]

In high-grade cases, it is considered an aggressive high-grade lymphoma, so patients require immediate, intensive treatment with immunochemotherapy regimens that include rituximab. In the most aggressive cases, mean survival is approximately 18 months.

In summary, our patient presented lymphomatoid granulomatosis, a very unusual type of extranodal lymphoma, that mainly

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