

Title:

Analysis of survival for lung cancer resections cases with fuzzy and soft set theory in surgical decision making. Dataset

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survival prediction; lung cancer; lung resection; non-small cell lung cancer; predictive models; soft expert system; soft set; fuzzy set

Abstract:

This initial database was developed in a study of 403 patients who underwent major pulmonary resections in the Salamanca University Hospital from 1994 to 2016.

We have taken patients with known survival status and a surgical procedure other than pneumonectomy.

The variables used in our study are:

- (1) Age of patient;
- (2) Body mass index (abbr. BMI, expressed in  $\text{kg}/\text{m}^2$ );
- (3) Existence of chronic obstructive pulmonary disease (abbr. COPD);
- (4) Forced vital capacity calculated percentage (abbr. FEV1%);
- (5) Approach of the surgery (thoracotomy or video-assisted thoracoscopic surgery, VATS);
- and (6) Presence of complications in the surgery.

The variable of mortality allows us to establish the survival of the patient.

Age is obtained from the date of birth and the date of surgery.

Body mass index is calculated based on the weight and size of the patient.