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Predicting COPD 1-year mortality using prognostic predictors routinely measured in primary care

Authors identified two primary care COPD cohorts using UK electronic healthcare records (Clinical Practice Research Datalink). The first cohort was randomised equally into training and test sets. An external dataset was drawn from a second cohort. A risk model to predict mortality within 12 months was derived from the training set using backwards elimination Cox regression. The model was given the acronym BARC based on putative prognostic factors, including body mass index and blood results (B), age (A), respiratory variables (airflow obstruction, exacerbations, smoking) (R) and co-morbidities (C). The BARC index predictive performance was validated in the test set and external dataset by assessing calibration and discrimination. The observed and expected probabilities of death were assessed for increasing quartiles of mortality risk (very low risk, low risk, moderate risk and high risk). The BARC index was compared to the established index scores: body mass index, obstructive, dyspnoea and exacerbations; dyspnoea, obstruction, smoking and exacerbations; and age, dyspnoea and obstruction (ADO). Fifty-four thousand nine hundred and ninety patients were eligible from the first cohort and 4931 from the second cohort. Eighteen variables were included in the BARC, including age, airflow obstruction, body mass index, smoking, exacerbations and co-morbidities. The risk model had acceptable predictive performance and acceptable accuracy predicting the probability of death. The BARC compared favourably to existing index scores that can also be applied without specialist respiratory variables. The BARC index performed better than existing tools in predicting 1-year mortality.

COMMENT

Bloom *et al.* outline on the development and testing of a prognostic index for 1-year mortality in patients with COPD. They derive a 'BARC' index comprising blood biomarkers, age, respiratory parameters and co-morbidities, which performed well in predicting mortality (and superior to other variables derived for longer-term risk prediction).

The study represents an important step at the intersection between respiratory and palliative care. The BARC index lacks the simplicity of some current mainstream respiratory indices, e.g. ADO (age, dyspnoea and airflow obstruction). This BARC index can be applied well in palliative care.

Bloom CI, Ricciardi F, Smeeth L, Stone P, Quint JK. Predicting COPD 1-year mortality using prognostic predictors routinely measured in primary care. BMC Med 2019;17:73.

Evaluation of QuantiFERON-TB Gold test for the diagnosis of tubercular infection in children

In this prospective study, 125 children who were being evaluated for tubercular infection or disease were administered Mantoux test, and at the same time, a blood sample was drawn for the interferon gamma estimation and evaluated by this new diagnostic assay, i.e. QuantiFERON-TB (QFT) Gold assay. Sensitivity and specificity of QFT test calculated were 96.4% and 81%, respectively, whereas the negative predictive value and positive predictive value were 91.9% and 90.9%, respectively. The sensitivity and specificity of the Mantoux test were found to be 89.2% and 59.5%, respectively. The Cohen Kappa coefficient between the Mantoux test and QFT Gold assay for diagnosis of tubercular infection was found to be 0.627 in their study, indicating a good agreement between the two tests. QFT Gold assay is an effective tool in diagnosing tuberculosis (TB) infection in a paediatric population. False-positive reactions with tuberculin skin test are common as there is cross-reactivity with non-tubercular mycobacteria and BCG vaccination. Both sensitivity and specificity of QFT test were better than those of the tuberculin skin test. Therefore, it is better than the tuberculin skin test, and the diagnostic yield is better. However, this test should not be used as gold standard for diagnosis of tubercular disease in children.

COMMENT

QFT Gold is a new *in vitro* test used as a diagnostic aid in the detection of latent and active TB infection. This test should not be used as gold standard for diagnosis of TB as culture is the gold standard. This comparative study can be applied to adult population as QFT Gold test has better sensitivity and specificity than tuberculin skin test (Mantoux test).

Dhillon A, Raveendran R, Saluja S, Kaul D. Evaluation of QuantiFERON-TB gold test for the diagnosis of tubercular infection in children. Curr Med Res Pract 2019;9:14-7.

Laparoscopic port closure with a simple, inexpensive, effective and easy procedure to prevent port-site hernia

Various methods and use of a number of instruments have been described for closure of port-site defects. Author has reported a simple, inexpensive, but effective, technique for the closure of port-site sheath as well as peritoneum to prevent port-site hernia (PSH) and used a looped spinal needle and another thread introducing spinal needle for closure of port-site sheath along with peritoneum under camera vision in 84 patients and compared with conventional open blind port closure in another 70 patients.

This procedure was used to close port-site defects in 84 patients (66 females and 18 males) after laparoscopic procedures. Neither PSH nor other post-operative complications was reported over a mean follow-up of 18 months with our described port-site closure method using spinal needles. However, two cases (2.85%) of PSH were recorded and one case (1.43%) of omental incorporation, resulting in persistent postoperative pain in the abdomen in the group of patients in whom conventional blind fascial closure was performed. The above-described procedure using spinal needles is an easy, safe and inexpensive port-site defect closure method to prevent PSH.

COMMENT

Acharya described that a procedure using spinal needles to prevent PSH is new in the field of laparoscopic surgery, which is appreciable furtherance. This technique is easy and inexpensive, which will be helpful for laparoscopic surgeons to prevent PSH.

Acharya AM. Laparoscopic port closure with a simple, inexpensive, effective and easy procedure to prevent port-site hernia. Curr Med Res Pract 2019;9:6-9.

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Conflicts of interest
There are no conflicts of interest.

V. Suresh, A. R. Bitla