

Screening cancer after venous thromboembolism: How many abnormal tests before diagnosing cancer? An analysis of practice

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Summary

Introduction > Since Trousseau, we know that venous thromboembolism (VTE) can reveal occult cancer. Different strategies of cancer screening have been evaluated: they are often time-consuming, cause stress and anxiety, and frequently require second-look examinations (due to the risk of false positives), with ultimately a very low yield (about 5%). We evaluated the number of suspect cancer tests before reporting them to the number of cancers finally diagnosed, after a VTE, in the setting of practice's analysis.

Methods > We studied retrospectively patients hospitalized for a VTE and with a cancer screening, between 2011 and 2012. Screening cancer was defined by performing at least one of the following tests: PSA, fecal occult blood test, mammography, abdominopelvic iconography (abdominal ultrasound and/or abdominal CT scan). We recorded the suspected cancer tests, the cancers diagnosed, their stage and the survival. These results were expressed as a percentage with a 95% confidence interval.

Results > Out of the 491 patients treated for a VTE, screening cancer was performed on 295 patients (median age 66.2 years). Nineteen PSA (16.7%, 95% CI [10.3–25]) were abnormal, with 2 localized prostate cancers. Nineteen fecal occult blood tests (15.3%, 95% CI [9.5–23]) were positive, with 2 local cancers. Five mammograms suspected cancer (4.7% 95% CI [1.6–10.8]) for one confirmed. Thirty-eight abdomino-pelvic iconographies (14.4% 95% CI [10.4–19.2]) were suspect, with 7 confirmed cancers, 6 being metastatic at times of diagnostic.

Conclusion > Among the 607 tests performed, 81 were suspected of cancer (13.3%) for only 12 cancers confirmed (2.0%). Screening cancer exposes patients to several false positive tests.

Résumé

Fréquence des examens anormaux dans la recherche de cancer après un événement thromboembolique veineux

Introduction > On sait depuis TROUSSEAU que l'apparition d'un évènement thromboembolique veineux (ETEVE) peut révéler un cancer méconnu jusqu'alors. Différentes stratégies de recherche de cancer ont été évaluées. Or, cette recherche est chronophage, anxiogène, et nécessite fréquemment des examens de seconde intention (du fait du risque de faux positifs), pour un rendement finalement très faible (environ 5 %). Nous avons donc évalué le nombre d'examens suspects de cancer, avant de les rapporter au nombre de cancers finalement diagnostiqués, dans les suites d'un ETEVE, dans le cadre d'une évaluation des pratiques.

Matériels et méthodes > Nous avons étudié de manière rétrospective les patients hospitalisés pour un évènement thromboembolique avec recherche de cancer, entre 2011 et 2012. La recherche de cancer a été définie par la réalisation d'au moins un des examens suivants : PSA, hématocrites, mammographie, iconographie abdominopelvienne (échographie abdominale et/ou scanner abdominal) à la recherche de cancer. Nous avons comptabilisé le nombre d'examens suspects de cancer, le nombre de cancers diagnostiqués, leur stade et la survie des malades. Ces résultats ont été exprimés en pourcentage avec un intervalle de confiance à 95 %.

Resultats > Sur les 491 patients pris en charge pour un ETEVE, une recherche de cancer a été réalisée chez 295 patients (âge médian 66,2 ans). Dix-neuf dosages de PSA (16,7 %, IC95 % [10,3-25]) sont revenus anormaux, pour deux cancers de prostate localisés. Dix-neuf hématocrites (15,3 %, IC95 % [9,5-23]) sont revenus positifs, pour deux cancers à un stade local. Cinq mammographies (4,7 % IC95 % [1,6-10,8]) étaient suspectes dont un cancer. Trente-huit iconographies abdomino-pelviennes (14,4 % IC95 % [10,4-19,2]) sont revenues suspectes, pour 7 cancers diagnostiqués, dont 6 métastatiques dès le diagnostic.

Conclusion > Au total, sur les 607 tests réalisés, 81 sont revenus suspects (13,3 %) pour seulement 12 cancers (2 %) diagnostiqués. La recherche de cancer expose donc les patients à un nombre important d'examens anormaux pour un rendement très faible (moins d'un sur six).

Venous thromboembolism (VTE) is a common disease whose incidence increases with age, 4/1000 after 80 years old [1]. Since Armand Trousseau, we know that thromboembolism events can be associated with occult cancers. This risk rises within the next two years after a first thromboembolic event, and can be 10% higher the first year after an unprovoked event [2]. Most studies evaluate intensive screening [3-6] versus non-invasive screening (standard test as examination, chest radio and standard biology) in patient with thromboembolic events [7,8]. These studies suppose that intensive screening can detect early form of cancer and could improve prognosis. These outcomes were not confirmed as extensive screening diagnosed in approximately only 5% of patients [7,8] with non-impact on the prognosis. It could not be proved that an exhaustive screening was better than standard screening (examination, chest radio, and standard biology) associated with clinical oriented exams

[5,7,8]. Hence, current practice remains to assess a global examination and prescribe test usually proposed among the general population (PSA, fecal occult blood test, mammograms).

We know that the rate of cancer detected by these methods increases by about 3-4% [8,9], but so far no studies have determined the impact of these false positives with screening cancer. The realization of most tests can provoke anxiety while it can not necessarily be a cancer. Furthermore, if the first line test is abnormal, patients have to wait for supplementary and more invasive tests, implying longer delays in care, iatrogenic risk and higher health costs.

The main objective of this study was to determine the proportion of abnormal tests (PSA, fecal occult blood test, mammograms and abdominal iconography) which are realized in order to detect a cancer after a thromboembolic event, in the setting of practice's analysis.

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