

Journal Meeting

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Is serum C-reactive protein a reliable predictor of abdomino-pelvic CT findings in the clinical setting of the non-traumatic acute abdomen?

CT優點:

fast
easy to perform
provides large amounts of information very quickly
CT is reported to have reduced negative laparotomy rates by as much as 13 %

CT缺點:

Contraindicated in pregnant patients the dose imparted from CT, particularly in younger patients, mandate the need for careful consideration and individual justification when performing CT examinations

CRP function

CRP levels rise rapidly in the setting of infection or inflammation paralleling the severity of pathologic activity, and fall rapidly in the post-inflammatory or post-infectious

- This rapid rise and fall make monitoring of CRP levels useful in acute inflammatory disease processes.
- recent studies have reported that CRP may also be generated by adipocytes such as intraabdominal active adipose tissue

Method

A total of 645 patients had been clinically diagnosed with an "acute abdomen" related to trauma and a variety of other causes. All patients with a history of trauma, recent surgery (within 1 month), a known prior malignancy, a known diagnosis of inflammatory bowel disease, or with known recent treatment for the presenting complaint were then excluded

Method

For study We divided CRP levels into quartile thresholds in order to facilitate statistical evaluation— (quartile 1, 0–5 mg/l; quartile 2, 5.2–25.6 mg/l; quartile 3, 27.2–130 mg/l; and quartile 4, 132.1–534.5 mg/l)

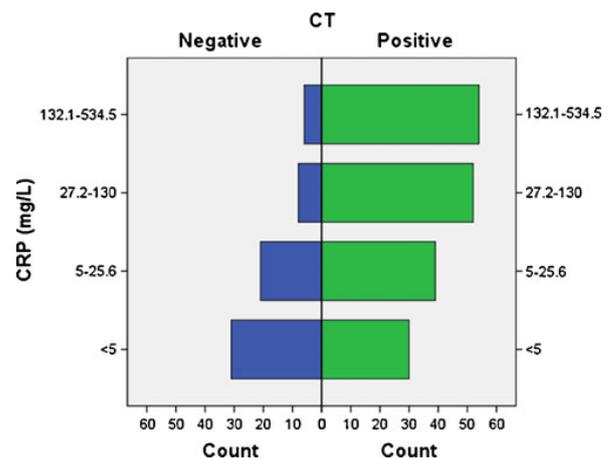
Method

CT finding :

- a. Negative
- b. Inflammatory/infectious
- c. Non-inflammatory/infectious
- d. Neoplastic
- e. Extra-abdominal

result

- There were equal numbers of positive and negative CT scans in the first quartile of CRP. The likelihood ratio for CT positivity with a CRP above 5.2 mg/L was 1.59; this increased to 3.45 for a CRP above 130 mg/L. The sensitivity of a positive CRP (>5.2 mg/L) was 81.7 % and the specificity was 48.5 %. The specificity of a CRP of 130 mg/L in determining a positive CT was 90.9 %, while sensitivity was 31.4 %



Discussion

- Acute abdominal pain constitutes approximately 10 % of emergency department admissions worldwide.
- Computed tomography is a very high-yield investigation in this scenario with diagnostic accuracy reported at up to 96 %

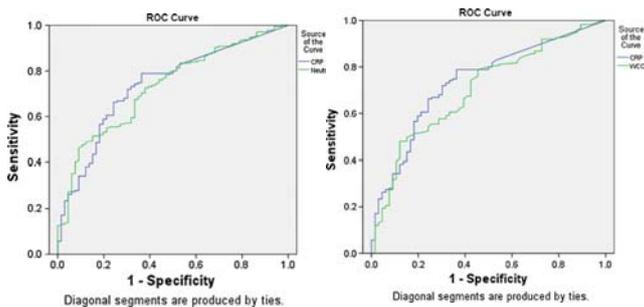
discussion

- 是否能用CRP 幫助評估減少CT判定使用指標?
結果無法證實CRP在正常時就不需做CT
REASON : CRP<5時CT的NEGATIVE和POSITIVE各半 If CRP negative作者猜測病人來醫院前是否使用一些藥病史(steroid , antibiotic,alcohol...)
但CRP>130mg 時CT 與CRP 特異性達到91%這情況很適合做CT

NOT include in study:

- specific clinical finding which lead to performance of CT scanning 特別是 normal CRP 還有一些實驗調查,沒進一步去研究
- 有 acute Abdominal 為什麼沒去做 CT

limitation: not include some patient
CRP 下降 (alcohol, NSAID and statin)
CRP 上升 rheumatoid arthritis, systemic lupus erythematosus, osteomyelitis as well as obesity, and obesity-related diseases 無考慮在內
希望能將以上因素考慮在內做全瞻性研究



Conclusion

CRP negative 不代表不需要做 CT
CRP positive 可優先做 CT
Imaging finding on CT of inflammation correlate well with CRP level. An elevated neutrophil count also predicts the presence of positive finding on CT with similar performance To CRP.