B3 core biopsies should be assumed as positive findings for accuracy purposes

Le biopsie percutanee B3 dovrebbero essere assunte come reperti positivi nella valutazione di accuratezza

S. Ciatto

Corte Cà Brusà 1G, 37067 Valeggio sul Mincio (VR), Italy, Tel.: +39-348-6540748, e-mail: stefano.ciatto@gmail.com

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Sir,

The paper by Luparia et al. [1] recently published in “La Radiologia Medica” and dealing with vacuum-assisted breast core biopsy (VAB) suggested me some comments. Apart from uncommon pathological figures, such as B3 high prevalence (23.6% as compared to 9-10% average literature figures) and a subsequent low positive predictive value (PPV, 4.2% as compared to 25-30% average literature figures), or a null PPV for a few B4 cases, I would like to comment on the criteria adopted to assess VAB accuracy. In particular, assuming B3 findings as “negative” is uncommon, as they are currently assumed as “positive” in the literature [2, 3] and usually referred for surgical confirmation [3]. I admit that a debate is still ongoing on which, if any, subset of B3 cases might be simply followed-up, such as special histological subtypes (e.g. papillary lesions and radial scars) and/or B3 without atypias, and I understand that the authors, due to the low PPV of their B3 cases, chose for collegial discussion to decide upon surgical confirmation. However, since they still referred to surgery 83% of B3 cases, it seems confirmed that B3 were dealt with as “suspicious” cases, that means “positive” for accuracy assessment purposes. Thus it would be more comparable with the current literature (as the authors do in a specific Table) if actual results would report 100% sensitivity and 70.2% specificity. Of course the authors may also comment on a hypothetical scenario where B3 are not sent for surgery, consistent with 94.9% sensitivity and 98.3 specificity.

Gentile direttore,

L’articolo di Luparia et al. [1], pubblicato recentemente su “La Radiologia Medica” in tema di biopsia mammaria vacuum assistita (VAB) mi suggerisce alcuni commenti. A parte alcune caratteristiche isto-patologiche non usuali della casistica, come una elevata prevalenza di lesioni B3 (23,6% rispetto al 9-10% mediamente riportato in letteratura), un conseguente basso valore predittivo positivo (PPV) dei casi B3 (4,2% rispetto al 25-30% mediamente riportato in letteratura), e un PPV nullo per un numero limitato di lesioni B4, mi lascia dubbi i criterio adottato per la valutazione della accuratezza di VAB. L’aver assunto le diagnosi B3 come “negative” non è comune, dal momento che i B3 sono generalmente considerati “positivi” in letteratura [2, 3] e avviati alla conferma chirurgica [3]. Ammetto che sussista un dibattito sulla possibilità di individuare un sottoinsieme di B3 che possano essere solo controllati nel tempo, come certi sottotipi istologici speciali (lesioni papillari e radial scar) e/o i B3 senza atipie, e comprendo anche che gli Autori, visto il basso VPP dei loro casi B3, abbiano scelto di discutere collegialmente la necessità di chirurgia in questi casi, ma il fatto che abbiano poi concluso per l’invio al chirurgo nell’83% dei casi conferma che hanno gestito i casi B3 come “sospetti”, e “positivi” per quanto riguarda l’accuratezza diagnostica. Quindi, i risultati di accuratezza dovrebbero più opportunamente riportare una sensibilità del 100% e una specificità del 70,2%. Questo soprattutto se gli Autori vogliono confrontare i loro risultati con quelli di altri studi (cosa che riportano in una tabella ad hoc) che hanno considerato i B3 come positivi. Ovviamente gli Autori possono discutere uno scenario ipotetico nel quale i B3 non vengono mai avviati al chirurgo, consistente con una sensibilità del 94,9% e una specificità del 98,3%.
Response

Sir,

we read with interest the comments expressed by dr. Ciatto regarding the results of our study [1] on stereotactic vacuum-assisted breast core biopsies (VAB), recently published in “La Radiologia Medica”.

It seems useful to highlight two aspects that may have influenced the results of our work: (i) the patient selection criteria, (ii) the performance of statistical analyses on a retrospective patient series.

With regard to the first aspect, at our centre the use of VAB is generally limited to patients with calcifications at low to intermediate risk and not associated with opacities. This protocol may have influenced the high prevalence of B3 lesions (23.6% of biopsies), noted by dr. Ciatto.

In fact, in a previous paper written in collaboration with the Department of Pathology (Senetta et al. [2]) we demonstrated that the lesions most commonly associated with the calcifications targeted with VAB were “columnar cell lesions with atypia” (flat epithelial atypia, FEA), which fall within category B3. It should, however, be noted that in a recent multicentre study by Bianchi et al. [3] the prevalence of B3 lesions ranged between 4.5% and 22.9% and in another single-centre Italian study [4], conducted on a similar population to ours in terms of sample size and lesion type (nonpalpable lesions, mostly consisting of microcalcifications occupying less than 1 cm and with a low-to-intermediate radiological risk), the prevalence of B3 lesions reached 19.2%.

The second issue raised by dr. Ciatto concerns our decision to assume B3 diagnoses as negative and to have nonetheless referred them for surgical excision. In making this decision, we considered that the definition of B3 lesions provided by the European Guidelines for Mammography Screening does not imply a “probably malignant” lesion, but rather a “lesion of uncertain malignant potential”, so that cases of calcifications not completely removed with VAB were referred for surgical excision. The retrospective, a posteriori, evaluation of the results of our series, also in consideration of the patient selection criteria, led us to regard the diagnosis of “negative for malignancy” as a “lesion of uncertain malignant potential”.

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Per quanto riguarda il primo punto, nel nostro centro l’esecuzione di VAB è limitata generalmente a pazienti con calcificazioni non di alto rischio radiologico e non associate ad opacità. Questo protocollo può aver influenzato l’elevata prevalenza di lesioni B3 (23,6% dei prelievi) che il dott. Ciatto sottolinea.

In un precedente lavoro in collaborazione con il Dipartimento di Anatomia Patologica (Senetta et al.[2]), abbiamo infatti dimostrato che le lesioni più frequentemente associate a calcificazioni bersaglio di VAB sono le “lesioni a cellule colonnari con atipia” (flat epithelial atypia, FEA) che cadono nella categoria B3. Va comunque precisato che in un recente studio multicentrico di Bianchi et al. [3] la prevalenza di B3 variava dal 4,5% al 22,9% e in un ulteriore studio mono-istituzionale italiano [4], su una casistica numericamente e come tipologia sovrapponibile alla nostra (lesioni non palpabili, costituite prevalentemente da microcalcificazioni estese per meno di 1 cm e con un rischio radiologico medio-basso), la prevalenza di B3 raggiunge il 19,2%.

Il secondo punto sollevato dal dott. Ciatto riguarda la nostra decisione di assumere le diagnosi B3 come negative e di avere comunque richiesto l’eseresi chirurgica. In questa scelta, abbiamo considerato che la definizione data di B3 dalle linee guida Europee per lo Screening Mammografico, non sottolinea una “lesione verosimilmente maligna”, ma bensì una “lesione ad incerto potenziale maligno”, per cui nei casi in cui le calcificazioni non fossero state completamente escisse con VAB si è proceduto all’esecuzione chirurgica. La valutazione a posteriore dei risultati della nostra casistica, tenendo conto anche dei criteri di scelta delle pazienti, ci hanno portato a considerare la diagnosi di “ne-
on the surgical specimen as correct. The positive predictive value (PPV) of category B3 in the event of preoperative histological sampling, especially if based on VAB, is debatable as it indicates, as stated, specific lesions that are not “malignant”, but that may be considered a surgical target owing to heterogeneity or biology. No doubt the experience gained now enables us to opt confidently for radiological follow-up in cases having the same radiological and histological features as those described in our paper.

References/Bibliografia