



Routine histological examination of epidermoid cysts; to send or not to send?



Jeyakumar R. Apollos^{a,*}, Gregory E. Ekatah^a, Guat Shi Ng^a, Angus K. McFadyen^b,
Stuart C. Whitelaw^a

^a Department of Surgery, Dumfries and Galloway Royal Infirmary, Dumfries, UK

^b AKM-stats, Glasgow, UK

HIGHLIGHTS

- Epidermoid cysts are common but malignant transformation extremely rare.
- Good association between a clinical diagnosis and a final pathology diagnosis of epidermoid cyst.
- Intra-operative transection of resected specimen may improve confidence in diagnosis.
- Where classical features are present clinically and on excision, the specimens do not require histological examination.

ARTICLE INFO

Article history:

Received 30 August 2016

Accepted 14 December 2016

Keywords:

Skin lesions
Health economics
Epidermoid cyst
Sebaceous cyst
Excision

ABSTRACT

Background: The diagnosis of epidermoid cyst is seldom in doubt, and associated malignancy extremely rare, yet it is commonplace for the lesion to be sent to the pathology laboratory for analysis. The aim of this study was to evaluate our current practice with regards to diagnostic accuracy among clinicians, and assess risk of not routinely sending suspected epidermoid cysts for histological examination. Potential cost savings were also estimated and calculated.

Methods: Retrospective analysis of clinical and pathology data on all suspected epidermoid cysts excised from a Scottish district general hospital over a 5-year period between January 2011 and October 2015.

Results: Five hundred and thirty-six suspected epidermoid cysts were excised during the study period. Three hundred and ninety-six were sent for histological examination which confirmed a diagnosis of epidermoid cyst in 303 (76.5%) cases. There was good agreement between preoperative suspicion and final histological diagnosis: 80.8% (257/318) among referring clinicians, 81.9% (289/353) among reviewing surgeons, and 88.4% (243/275) where there was preoperative agreement between both. There were no malignant lesions. An average of 80 clinically apparent epidermoid cysts were excised and sent for histology each year at a cost of £4800 per annum.

Conclusion: There was close agreement between clinical and final histological diagnosis of epidermoid cyst. Where a characteristic, odorous, toothpaste-like material is present on transection intra-operatively, the diagnosis is confirmed and the lesion can be discarded. We argue that significant cost savings can be achieved by adopting this approach.

© 2016 The Author(s). Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Epidermoid cysts (often incorrectly referred to as sebaceous cysts) [1] are among the most commonly encountered benign

cutaneous lesions referred for surgical excision. They are commonly found on the scalp, face, and trunk but may also occur on the limbs and genitals. The quiescent, non-infected cyst is best treated by surgical resection of the intact cyst under local anaesthesia, ensuring no residual cyst wall remains as this increases the risk of recurrence [2]. There is anecdotal evidence to suggest an intra- and inter-departmental variation in surgical practice when clinically apparent benign skin lesions, including epidermoid cysts, are excised [3]. While some routinely request histological examination

* Corresponding author. Department of Surgery, Dumfries and Galloway Royal Infirmary, Bankend Road, Dumfries, DG1 4AP, UK.

E-mail address: japollos@nhs.net (J.R. Apollos).

of these specimens, others are confident enough in the clinical diagnosis to discard such specimens in the absence of concerning features. The practice of routine histological examination of epidermoid cysts may therefore incur an additional cost with no consequent benefit to patient care or prognosis. With finite healthcare resources, this brings into question the justification for such practice.

The aim of this study was to evaluate our current practice with regards to diagnostic accuracy in primary as well as secondary care settings, and assess risk of not routinely sending suspected epidermoid cysts for histological examination. Potential cost savings were also estimated and calculated.

2. Methodology

2.1. Study design and patient selection

A retrospective cohort study was conducted of all consecutive skin lesions excised within a Scottish district general hospital (Dumfries and Galloway Royal Infirmary) and its associated community hospital (Galloway Community Hospital) over an approximate 5-year period between January 1st, 2011 and October 1st, 2015. Majority of patients were referred by their General Practitioners (GPs), as is standard practice within the UK. Patients were then reviewed in the outpatient clinic by Consultant or non-Consultant (trainee) surgeons prior to excision. Surgical teams included General, Maxillofacial, Orthopaedic and Gynaecological surgeons.

We included patients with suspected epidermoid cysts, clinically diagnosed by General Practitioners (GP) and/or reviewing Surgeons in the outpatient clinic, who underwent excision. Demographic data and operative details were collated including referral details, clinical diagnosis, surgical specialty, and grade of surgeon reviewing in clinic as well as grade of the operating surgeon. All patients were crosschecked in our pathology database to ascertain whether specimens had been sent for histological examination and the final diagnosis compared with preoperative diagnoses.

Patients excluded from the study were those suspected to have an alternative diagnoses by both the referring GP and reviewing Surgeon in the outpatient clinic.

The cost of routine histological examination was calculated based on unit pricing for the analysis of each specimen. The unit cost of analysis in our NHS trust is £60 which lies well within the UK price range of £50–£90 [4].

2.2. Statistical analysis

Statistical analysis was performed using IBM SPSS Statistics software 23.0. Continuous data were summarized as mean and median while categorical data in frequencies and percentages. Cross tabulations were performed where relevant with Chi-square and Fisher's Exact tests used to evaluate statistical significance defined as $p < 0.05$.

3. Results

Five hundred and thirty-six suspected epidermoid cysts were excised between January 2011 and October 2015. Patient demographics and intraoperative details are shown in Table 1. The median age of patients included in the study was 50 years (range 3–89). An equal proportion of males and females was noted within the study group – 278 (51.9%) males and 258 (48.1%) females. Eighty-two percent of patients were operated on by general surgeons.

Table 1
Patient demographics, and operative details.

	No. of patients ^b (n = 536)
Age (Years) ^a	50 (3–89)
Sex	
Male	278 (51.9)
Female	258 (48.1)
Grade of operating surgeon	
Consultant	261 (48.7)
Non-consultant	275 (51.3)
Surgical specialty	
General surgery	441 (82.3)
Oral and Maxillofacial surgery	67 (12.5)
ENT	18 (3.3)
Orthopaedic surgery	9 (1.7)
Gynaecology	1 (0.2)

^a Values are median (range).

^b With parentheses in percentages unless otherwise stated.

Four hundred and thirty-nine (81.9%) lesions were suspected by the referring clinician to be epidermoid cysts, 486 (90.7%) by the reviewing surgeon in clinic, and in 389 (72.6%) cases there was agreement on the diagnosis by both.

Three hundred and ninety-six (73.9%) of all excised lesions were sent for routine histological examination largely based on operating surgeon preference. There was no statistically significant difference observed in consultant versus non-consultant grade surgeons' likelihood to request routine histological examination. Of the 261 lesions excised by consultant surgeons, 189 (72.4%) were sent to the pathologists as compared with 207 out of 275 (75.3%) excised by non-consultant surgeons, $p = 0.51$.

There were 303 (76.5%) confirmed epidermoid cysts on final pathology (Fig. 1). The most common diagnosis of the 93 excised non-epidermoid cyst lesions histologically examined were lipomas (28% $n = 26$). Others included 13 (14%) pilomatrixoma, and 7 (7.5%) dermatofibroma. There were no malignant lesions.

Of the 140 suspected epidermoid cysts excised which were discarded, we assessed the preoperative suspicions. One hundred and fourteen (81.4%) were suspected by both the referring clinician and assessing surgeon in clinic to be an epidermoid cyst.

We followed up all patients up to February 2016 by checking electronic GP referral records and accessing additional pathology records. There were no further referrals or pathology reports suggesting no disease recurrence or skin malignancy in this cohort of patients (**median follow-up = 38.8months**).

3.1. Accuracy of clinical diagnosis

From the primary care setting, 318 cases referred by GPs as suspected epidermoid cysts were sent for pathological confirmation following surgical excision. Two hundred and fifty-seven (80.8%) were confirmed as epidermoid cysts and the remaining 61 (19.2%) as an alternative diagnosis ($\chi^2 = 16.02$, **$p < 0.001$**) (Fig. 2A).

In secondary care, of 353 suspected epidermoid cysts sent for pathology, 289 (81.9%) were correctly diagnosed clinically by the assessing surgeon. The remaining 64 (18.1%) were other benign lesions ($\chi^2 = 49.2$, **$p < 0.001$**) (Fig. 2B). The grade of assessing surgeon in clinic had no impact on the likelihood of the diagnosis being correct. Eighty two percent (194/238) of consultants diagnosed epidermoid cysts correctly compared to 83% (95/115) non-consultants ($\chi^2 = 0.01$, **$p = 0.9$**).

Where both the referring GP and assessing surgeon agreed on a clinical diagnosis of epidermoid cyst, 243 (88.4%) of the 275 lesions sent for histological examination were confirmed as epidermoid

Download English Version:

<https://daneshyari.com/en/article/5722976>

Download Persian Version:

<https://daneshyari.com/article/5722976>

[Daneshyari.com](https://daneshyari.com)