Cryptogenicity of Metastasis to the Femur in a Developing Community

Wilson IB Onuigbo*

Department of Pathology, Medical Foundation & Clinic, Nigeria

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*Corresponding author: Wilson IB Onuigbo, Department of Pathology, Medical Foundation & Clinic, 8 Nsukka Lane, Enugu 400001, Nigeria, Email: wilson.onuigbo@gmail.com

Abstract

In a wide ranging review of soil suitability in cancer metastasis, the author designated 12 classes of which one was cryptogenicity. This means secondary growth which manifests before the primary becomes recognized. Later, this phenomenon was expatiated on, the historical grounds being chosen. Therefore, since it has been advocated that the establishment of a histopathology data pool facilitates epidemiological analysis, this method is used here to explore cryptogenicity as regards femur cancer among the Ibo or Igbo ethnic group who are domiciled in the South-Eastern Region of Nigeria.

Keywords: Cancer; Metastasis; Selectivity; Cryptogenicity; History; Femur; Igbos; Developing community

Introduction

Back in 1974, the author reviewed the very important data on organ selectivity in human cancer metastasis [1]. A major finding was the categorization of 12 classes. Cryptogenicity was one of them, this specifying that “the primary tumor remains hidden, whereas its metastasis thrives well and thrusts itself forward, thereby attracting attention to another organ.” As I continued, “In bones, for example, it is a pathological fracture that often brings the existence of the primary mischief to light.” An interesting question arose. Now, it is accepted that the establishment of a histopathology data pool facilitates epidemiological analysis [2]. Therefore, what will happen when such a data pool is established among the Ibo ethnic group [3]? As this is a developing community, the research concerns the femoral fractures which actually exemplify cryptogenicity in cancer metastasis.

Investigation

By 1963, having trained in Pathology at the famous Glasgow Western Infirmary [4], I returned to Enugu, Nigeria, to head the Regional Pathology Laboratory. Unfortunately, there was wholesale destruction of it during the Civil War which ended in January 1970. Thereafter, biopsy specimens began to arrive with the proviso that each named surgeon must submit well filled Histology Request Forms. As I kept the individual reports personally, it became easy to report the cases. Indeed, the first 36 reports formed the MD Thesis of Glasgow University in 1980 [5]. Thereafter, interesting series grew, e.g., concerning the breast, this was as regards inflammatory carcinoma [6], tumoral calcinosis [7], bilateral carcinoma [8], clear cell carcinoma [9], epidermoid cyst [10], ratio of medullary to invasive ductal carcinoma [11] and squamous carcinoma [12] all these appearing in 2017. Therefore, the present paper beams on cryptogenicity. It is with special reference to unknown carcinomas causing fracture of the femur.

Results

Table 1: Epidemiological data on cryptogenic femur metastases.

<table>
<thead>
<tr>
<th>No</th>
<th>Initials</th>
<th>Age</th>
<th>Sex</th>
<th>Side</th>
<th>Surgeon</th>
<th>Microscopy</th>
</tr>
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<tr>
<td>1</td>
<td>NE</td>
<td>70</td>
<td>M</td>
<td>R</td>
<td>Nwankwo</td>
<td>Adenocarcinoma</td>
</tr>
<tr>
<td>2</td>
<td>AO</td>
<td>70</td>
<td>F</td>
<td>L</td>
<td>Onodu</td>
<td>Undifferentiated carcinoma</td>
</tr>
<tr>
<td>3</td>
<td>OM</td>
<td>33</td>
<td>F</td>
<td>R</td>
<td>Enweani</td>
<td>Undifferentiated carcinoma</td>
</tr>
<tr>
<td>4</td>
<td>IG</td>
<td>50</td>
<td>F</td>
<td>R</td>
<td>Eze</td>
<td>Undifferentiated carcinoma</td>
</tr>
<tr>
<td>5</td>
<td>IM</td>
<td>66</td>
<td>M</td>
<td>L</td>
<td>Eze</td>
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</tr>
<tr>
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<td>Osisioma</td>
<td>Adenocarcinoma</td>
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<td>7</td>
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<td>55</td>
<td>M</td>
<td>L</td>
<td>Katchy</td>
<td>Adenocarcinoma</td>
</tr>
<tr>
<td>8</td>
<td>AA</td>
<td>33</td>
<td>M</td>
<td>R</td>
<td>Iheghu</td>
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</tr>
<tr>
<td>9</td>
<td>AP</td>
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<td>L</td>
<td>Osisioma</td>
<td>Adenocarcinoma</td>
</tr>
<tr>
<td>10</td>
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<td>50</td>
<td>M</td>
<td>L</td>
<td>Nwankwo</td>
<td>Adenocarcinoma</td>
</tr>
<tr>
<td>11</td>
<td>EC</td>
<td>75</td>
<td>M</td>
<td>L</td>
<td>Onodu</td>
<td>Undifferentiated carcinoma</td>
</tr>
</tbody>
</table>
Discussion

By 1984, Weiss and Gilbert published their monograph of “Bone metastasis” [13]. They were magnanimous in requesting me to contribute Chapter 1 on “Historical Concepts of Cancer Metastasis with Special Reference to Bone” [14]. In it, I cited the works of both Cooper in 1824 [15] and Warren in 1837 [16]. Modern cases merit mention. In particular, Mariana Costache and her Romanian associates reported a 44-year-old female as to the histopathological characteristics of the metastases in the femur from malignant melanoma [17]. From Italy, the authors claimed the first case of isolated femur metastasis which occurred in advanced uterine cervical carcinoma [18].

With regard to treatment, UK workers presented the current status of prophylactic femoral intramedullary nailing for metastatic cancer [19]. From Brazil, prognostic factors in patients with breast cancer metastasising to the femur were considered surgically [20].

As regards rarity, French authors narrated the case of a 63-year-old woman [21]. She had bilateral femur metastases from low-grade endometrial carcinoma.

Regarding my present mundane approach, it suffices to add to the literature the above findings in a developing community. Of the 11 cases, two surgeons submitted 2 specimens while seven surgeons sent single specimens. Both right and left femurs suffered to the literature the above findings in a developing community.

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Regarding my present mundane approach, it suffices to add to the literature the above findings in a developing community. Of the 11 cases, two surgeons submitted 2 specimens while seven surgeons sent single specimens. Both right and left femurs suffered equally. And the sexes were also equally involved. Most cases were well differentiated adenocarcinomas, a few being undifferentiated carcinomas. As for age, the males ranged from 33 to 75 years [mean 58.1 years] while the females were aged 23 to 70 years [mean 44.6 years]. In sum, the females were younger. It is possible to expatiate on this because my earlier study showed the reproducibility of Igbo ages [22].

Incidentally, I published on identified thyroid primaries and their cryptogenic invasion of long bones elsewhere [23]. Strikingly, of the 6 cases, the majority involved the femur. In contrast, in the recent report from USA [24], there was no special mention of the femur as a cryptogenic secondary site.

References

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