

## Brief article

### Brain Metastases in Melanomas: Historical Highlights

Wilson I. B. Onuigbo

1- Department of Pathology, Medical Foundation and Clinic, 8 Nsukka Lane, Enugu 40001, Nigeria.

Corresponding author: Wilson I. B. Onuigbo

Email: wilson.onuigbo@gmail.com

#### Abstract

There is a recent study of the history of the pigmentary tumors. However, it does not mention brain metastases. Accordingly, extensive search of the *Transactions of the Pathological Society of London*, which I have in my mini-Library, was undertaken. Consequently, the findings are analysed here. They range not only from observing the brain in its “natural” state but also to abstracting useful data. In this context, some eponymous giants were exemplified in terms of anatomical exactitude. Even the concept of “emboli” appeared.

**Keywords:** : Melanoma, Spread, Emboli, Brain, History

#### Introduction

As someone who believes in the tracer tool function of the requested reprint, (1) I possess such an informative reprint. The arresting title is “Pigment Cell Biology: An Historical Review” (2). Alas! It does not cover the important subject of the metastasis of melanoma to the brain. Consequently, this paper supplies data culled from the *Transactions of the Pathological Society of London* which began to appear in the 1846-48 period (3). In sum, I stock them in my mini-Library.

#### Historical texts

Perhaps, one may start with those medical masters who merely noted that the brain was not invaded when they carried out autopsies (4-8). Likewise, mere listing of brain among the colonized organs was the contribution of Calvert and Pigg (9). Beadles (10) was specific. As he saw it, “Nothing abnormal was noticed about the appearance of the membranes, cerebrum, and the rest of the brain, with the exception of the left lobe of the cerebellum.” Elsewhere, he showed knowledge of “emboli” itself.

Likewise, Sanderson (11) mentioned that “The left lobe of the cerebellum was displaced by a melanotic mass, about as large as nectarine.” Another localized area was seen by Payne (12), but only in terms of the ventricle and nerves. Similarly, Rolleston (13) aptly described a man who presented with left hemiplegia; the cause was “a polypoid tumour which was embedded in the substance of the right cerebral hemisphere.”

In contrast, Bryant (14) knew a man who “had no head symptom,” but turned out eventually to have suffered from “almost a complete cavity” that microscopy confirmed to be melanomatous.

Deserving of an abstract of some length is the story keyed to drunkenness (15). As a patient of the laboring class, the man had taken “wine which he had smuggled into the hospital.” He never recovered! Autopsy was revealing thus:

First, then, as to the brain. There were two tumours of the size of nuts, and about six of much smaller size in the grey matter of the cerebrum. All showed distinctly on the surface, the larger as black masses, the smaller as faint grey dots, and all were above the level of the centrum ovale majus.

The tumour in the medulla was remarkably soft, almost central in position, but extending rather further to the right than the left side, and reaching from half way down the medulla to the lower border of the pons. No sign of a recent haemorrhage could anywhere be seen, and thus, though it is impossible not to suspect that the growth had something to do with the man’s death, it is not easy to explain the symptoms that set in after the fit of drunkenness. It seems strange that so large a mass could have existed in this important situation without giving rise to any symptoms whatever unless the numbness and loss of power in the left arm are to be attributed to it.

Another interesting case involved a woman. As the pathologist pronounced (16), “It was this wonderful distortion of her limbs which made me anxious to see the seat of the brain lesion.” There were eleven

separate masses in the brain. They deserve portrayal because some eponymous giants featured thus:

The positions occupied by these morbid growths, which were found on or near the upper surface, are of interest in their bearing on the question of the localization of cerebral function. The superior frontal convolution has been pointed out by Ferrier as the point by stimulating which, in the monkey, he obtained extension forward of opposite hand and arm, whilst around the fissure of Rolando he obtained "complicated movements of the hand and arm, as in swimming," and it is to be remarked that, in the case before us, there was on both sides a morbid growth interfering with the localities mentioned.

In the same connection we would note the existence of a tumour in what is called Broca's convolution.

At the spot corresponding with that occupied by another morbid growth, viz. that in the left parietal lobule, Ferrier obtained by stimulation advance of the opposite limb, as in walking.

### Discussion

It is noteworthy that the analyses showed a range of findings which go from normality of the brain to melanomatous colonization. These included those linked with some eponymous giants like Ferrier and Broca. In conclusion, the fact that they traced the pathological landmarks exactly is in keeping with my suggestion that the medical masters of yester years were interestingly cognizant of the laws of nature (17). Incidentally, the famous German pathologist, Julius Cohnheim, considered in 1889 that autopsies "are all in a manner experiments instituted by nature, which we need only rightly interpret to get a clear idea of the causes, laws of growth, and significance of the tumour" (18).

No conflict of interest.

### References

1. Onuigbo WIB. Reprint requests – a tool for documentation. Int For Inform Doc, 1985; 10:7-9.
2. Nordlund JJ, Abdel-Malek ZA, Boissy RE, et al. Pigment cell biology: An historical review. J Invest Dermatol, 1989; 92:53S-60S.
3. Anonymous. BYE-LAWS AND REGULATIONS. Trans Path Soc Lond, 1840-48; 1:15.
4. Coupland S. Primary diffuse malignant growth in the liver, in which the characters of sarcoma and carcinoma were apparent. Trans Path Soc Lond, 1880; 31:130-135.
5. Target JH. Secondary melanotic sarcoma of the bladder. Trans Path Soc Lond, 1891; 42:214-215.
6. Sanderson –. Melanotic cancer in various organs. Trans Path Soc Lond, 1855; 6: 324-329.
7. White H. A case of primary melanotic carcinoma of the liver. Trans Path Soc Lond, 1886; 37:272-275.
8. Legg JW. Melanotic sarcoma of the eyeball; secondary growths in the organs of the chest and belly, particularly in the liver. Trans Path Soc Lond, 1878; 29:225-229.
9. Calvert J, Pigg S. A case of melanotic sarcoma. Trans Path Soc Lond, 1898; 49:297-299.
10. Beadles CF. A case of multiple malignant growths. Trans Path Soc Lond, 1894; 45: 188-197.
11. Smith H. Malignant disease of the kidney, heart, and liver. Trans Path Soc Lond, 1848; 1:281-282.
12. Payne JF. Melanotic sarcoma occurring in the liver, lungs, and other parts. Trans Path Soc Lond, 1873; 24:134-137.
13. Rolleston HD. Secondary polypoid melanotic tumours in the mucosa of the small intestine. Trans Path Soc Lond, 1897; 48: 82-83.
14. Bryant T. Melanotic tumour developed in a mole; excision; and the secondary formation of melanotic tumours in the integuments and nearly every internal organ. Trans Path Soc Lond, 1863; 14:246-247.
15. Godlee RJ. Melanotic sarcoma in the medulla oblongata secondary to a similar growth situated probably in a lymphatic gland. Trans Path Soc Lond, 1874; 25:18-23.
16. Kesteven WH. A case of multiple cerebral tumour. Trans Path Soc Lond, 1884; 35:24-26.
17. Onuigbo WIB. The visionary views of medical masters of yester years on Nature's norms point to present prospects in the target therapy of cancer. Bio Med, 2015; 7:221. doi: 10.4172/0974-8369.1000221.
18. Cohnheim J. Lectures on general pathology. Section 1. London. The New Sydenham Society. 1889; p.14.