

# Does the “Erythrocyte Associated Necrosis Factor” Explain the Scarcity of Metastases in the Spleen?

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Received date: April 8, 2016; Accepted date: May 27, 2016; Published date: June 9, 2016

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## Abstract

The grand anatomical eminence of the spleen rests, among other things, on its manufacture of erythrocytes, the littoral cells allowing traffic of blood cells between cords and sinuses. Manifestly endowed is the heart that pumps these cells and cancer cells to the spleen. In this context, lung cancer is best poised to scatter its millions of members to any organ including the spleen. Clearly, lung cancer cells and erythrocytes must commingle in the spleen. Elsewhere, such commingling was shown to lead to obvious cancer necrosis. Therefore, an Intrinsic Factor was reasoned to be responsible for such necrosis within the thoracic duct. It was named personally as the “Erythrocyte Associated Necrosis Factor” (EANF). Now, in the Theoretical Sciences, a hypothesis is held to have “operational power” if a result validates it. Therefore, for confirmation, repeated validations need to be looked for. This has been achieved. Accordingly, it is hypothesized that this very Factor is at work in the spleen, seeing that the occurrence of splenic colonization has been *nil or few*. It was also reasoned that, since “theoretical physics” as well as “theoretical physicist” are Dictionary renditions, both “theoretical oncology” and “theoretical oncologist” ought to emerge!

**Keywords:** Spleen; Erythrocytes; Lung cancer; Spread; Metastases; Paucity; Theoretical oncologist

## Introduction

Ackerman's Surgical Pathology [1] depicts the spleen as a grand organ that, in part, forms erythrocytes which are a part of its vital traffic. This traffic also includes cancer cells. In the case of lung cancer, millions of them are available for colonization, and must reach in part at the spleen with every stroke volume of the heart [2]. Accordingly, what happens to them there?

## Early Hypotheses

Elsewhere, I first argued that, when lung cancer cells are commingled with erythrocytes, they have been found to be necrotic to such an extent as to require explanation on the strength of an intrinsic natural element which I named personally as the “Erythrocyte Associated Necrosis Factor” (EANF) [3].

Now, in the Theoretical Sciences, it is acknowledged that a hypothesis can be validated by its “operational power” [4]. Therefore, the present one sets out for validation by way of repeated exemplifications as follows:

- It was shown that the observations of the old pathologists between 1827 and 1897, concerning the paucity of contralateral lung colonization, is explicable on the action of EANF [5].
- The scientific significance of the role of the thoracic duct's microenvironment was adverted to [6].
- The suitability of a natural translational system for target therapy of lung cancer was advocated [7].
- There is the possible role that stem cells play in this situation [8].

- The possible role exists also in the prevention of metastases [9].
- The connection with the vena cava syndrome was advantageously explained [10].
- The possible role of immunopathology has been canvassed [11].
- Human model for studying the bare area of the liver with special reference to the metastatic potential of lung cancer metastases was assessed [12].

## Present hypothesis

It is common knowledge that metastases are relatively few in the spleen. Indeed, it was put at 4% by Willis [13]. The singularity of this figure is such that it has encouraged the publication of individual cases [14-16]. In particular, in the case of lung cancer reported by Cai and Kragel, [17] the literature was also surveyed. Figure 1 illustrates a personal case encountered in Glasgow, UK, using my mono-block formalin-fixation method for investigating metastasis [18]. In that particular case, I drew attention to the oddity of the combination of spleen metastasis and peripheral lymph node metastases without the mediastinal nodes being involved [19].

## Prospects

There is the “operational power” as revealed evidences that the spleen is in line with those which were displayed in several other areas of the body [3-12]. In principle, such advances in the knowledge of EANF should hasten its identification. Incidentally, Merriam-Webster's Collegiate Dictionary [20] exemplifies “theoretical physics” and even “theoretical physicist.” I am persuaded, therefore, that the ominous field of Oncology deserves similar appellation, i.e., “Theoretical Oncology” and “Theoretical Oncologist!” Accordingly, let theoretical

oncologists aim at retrieving EANF in Translational Laboratories. Moreover, are we dealing with Facts or Folly? Time should tell.



**Figure 1:** Specimen of mono-block formalin-fixation method for investigating lung cancer. Note arrow pointing to a metastatic nodule in the spleen below the left lung, the mediastinal groups being free of growths remarkably.

## Conclusion

What remains is to prove that the above 8 hypotheses are based on fact and not on fancy. Incidentally, the Theoretical Journal, Medical Hypotheses, [21-26] also published other arguments of mine. Meanwhile, concerning the above lung cancer patients, their thoracic ducts are open to experimental research with intravital videomicroscopy [27]. Surely, the scientific world waits for that breakthrough which ought to occur in Translational Laboratories wherein dollars are said to be not the problem but their requisite appropriation [28,29]. Moreover, what of EANF in the thoracic ducts of other organs? Meanwhile, it is worth remembering that bleeding was precariously alarming until the Coagulation Factor was identified [30]. Would that the appropriate Factor could come on the scene sooner than later!

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