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## The potential importance of hyper cobalaminemia as a possible early marker in the working diagnosis of malignancy and blood disorders

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**H**ypercobalaminemia is defined by a rate of vitamin B12 above 950pg/ml. The most obvious cause of hypercobalaminemia is taking too much of the vitamin in the form of supplements. Vitamin B12 is generally not considered toxic in high levels, but it is important to determine if the elevation due to excess vitamin supplements since the other causes of a high vitamin B12 level are usually serious such as solid tumours, blood diseases, liver diseases and kidney diseases. The aim of this article is to review the association between hypercobalaminemia and malignancy & hematological disorders. The association of hypercobalaminemia and solid tumours was first described and documented by Carmel et al. in 1975 and in 1977. In ancient literature hypercobalaminemia is an anomaly frequently observed in malignant blood diseases including chronic myelomonocytic leukemia, primary hypereosinophilic syndrome, myelodysplastic syndromes and acute leukemias. In the series of Chiche et al., 23% of patients with high serum cobalamin had a solid cancer, which was previously unknown in 73% of cases and still at a non-

metastatic stage in 80% of cases. In their work, Chiche et al. found a statistically significant association between vitamin B12 levels >1275 pg/ml and the existence of a malignant blood disease. According to a September 2012 study in "PLOS One," people with high vitamin B12 had a 4- to 18-times higher risk of having a blood disease. Table 1 summarizes the key data in the literature regarding high serum cobalamin observed in malignancy and hematological disorders. Based on, we can conclude that: it is possible to depend on hypercobalaminemia as non specific early marker in the working diagnosis of malignancy and hematological disorder.

### Speaker Biography

Abdou Deyab is belongs to Egypt. He has his expertise in evaluation and passion in improving the health and wellbeing. He comes with over 12 years of experience in the practice and research work of general pediatrics and pediatric haematology oncology in Egypt, Kuwait and Oman. He held the position of specialist pediatrician.

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| DISEASE               | ASSOCIATED HYPERCOBALAMINEMIA                | ETIOLOGY   |
|-----------------------|--|--|
| CML                   | Very frequent ( up to 10 times normal value) | Production of granulocyte HCs.                       |
| ALs -promyelocytic    | 30% of cases                                 | Production of granulocyte HCs                        |
| Polycythemia vera(PV) | 30–50% of cases                              | Release of granulocyte HCs                           |
| Primary myelofibrosis | one-third of cases                           | Elevated apo-HC and apo-TCB II levels                |
| Primary HES           | Up to 30 times normal value                  | Production of granulocyte HCs.                       |
| HCC                   | 50 % of cases                                | Production of HCs by the tumour or hyperleukocytosis |

Association between hypercobalaminemia and malignancies & haematological disorders