



Prevalence of anemia and iron deficiency in an Asian cohort of prostate cancer patients – a cross sectional study

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Introduction

Anemia was associated with prostate cancer of different stages. Worsened quality of life and impaired survival outcomes were often the sequelae.

Iron dysmetabolism was postulated to be one of the most common causes of anemia in prostate cancer.

We are describing the incidence of anemia and iron deficiency in a local cohort of prostate cancer patients, and their associated risk factors.

Patients and methods

82 consecutive patients attending the prostate cancer clinic in North District Hospital from September to June 2022 were recruited.

Patients with concomitant gastrointestinal malignancy were excluded. Baseline parameters, disease characteristics and treatment details were documented.

A standard blood panel was performed, including **complete blood count**, renal function test, **iron profile**, testosterone, albumin, folate and B12 level.

Table 1. Baseline demographics of cohort of prostate cancer patients

	n	%
Patients	82	
Age	74.22	8.78
Performance status		
0	55	67.1
1	12	14.6
2	9	11
3	5	6.1
4	1	1.2
DM	22	26.8
HT	29	35.4
Lipid	30	36.6
IHD	6	7.3
Chronic kidney disease	26	31.7
Mean +- SEM PSA at diagnosis	97.97	23.28
Mean +- SEM PSA on latest follow up	4.26	1.6
Castration resistant status	11	13.4
Metastatic status	32	39
ISUP		
1	19	23.2
2	22	26.8
3	11	13.4
4	18	22
5	8	9.8
Testosterone castrate level	44	53.7
Treatment history of		
RP	30	36.59
RT	29	35.37
ADT	50	60.98
Chemotherapy	3	3.66
NHT	7	8.54
Mean value +- SEM		
Hb	13.71	1.23
Cr	106.62	8.73
Albumin	40.68	0.78

Results

The mean age of the cohort was 74.2. 32 patients (39.0%) had metastatic disease, and 11 (13.4%) were in castration resistant status. Anemia was found in 43 (52.4%) patients.

Iron deficiency was noted in 17 (20.7%) and iron deficiency in 6 (7.3%) patients. 7 patients (8.5%) had folate deficiency and 3 patients (3.7%) had B12 deficiency.

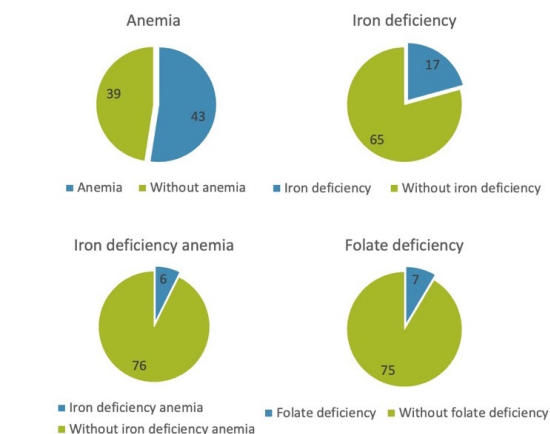
Statistical analysis was performed to identify the relative risk of developing iron deficiency across related factors

- Patients with **castrated testosterone level** vs non castrate level: OR = 1.3 of developing iron deficiency (p=0.631)
- **Metastatic status**: OR = 1.5 (p=0.446)
- **Castration resistance status**: OR = 2.5 (p=0.169)
- Chronic kidney disease: OR = 2.1 (p=0.148)

However it should be noted that the sample size was not adequate to demonstrate a statistical significance.

Table 2. Proportion of patients with iron deficiency and related condition

	n	%
Anemia	43	52.4
Iron deficiency	17	20.7
Iron deficiency anemia	6	7.3
Folate deficiency	7	8.5
B12 deficiency	3	3.7



Conclusions

Anemia was commonly found in prostate cancer patients, with iron deficiency being the most prevalent cause.

More effort was needed to identify the risk factors, and to address the need of treatment.