HYPERFERRITINEMIA AND ITS ASSOCIATED FACTOR IN LONG TERM HEMODIALYSIS PATIENTS IN A CAMEROONIAN HEMODIALYSIS FACILITY

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Background : Anemia is a common complication in ESKD. However, in resource limited countries such as Cameroon, the use of erythropoiesis stimulating agent (ESA) is low and blood transfusion is still the main treatment of anemia in such patients. Polytransfusion may lead to hyperferritinemia which is known to increase morbi-mortality in hemodialysis. We sought to evaluate the prevalence, and the factor associated to hyperferritinemia in a hemodialysis facility in Cameroon.

Methodology : We conducted an analytic study in the Douala General Hospital hemodialysis facility. From 1st January to 31st May 2023, we included all adult consent hemodialysis patients ≥ 6 months, without intercurrent pathology, no sign of acute infection and not hospitalized during the last 4 weeks were included. We collected sociodemographic, clinical, biological data as well as 5ml of pre-dialysis blood for haemogram and ferritin determination. Ferritinemia >500ng/l was considered as hyperferritinemia. Patients were then follow-up for 1 year and death as well as major cardiovascular event was recorded as poor outcome. Data were analyzed using SPSS v20 software. Significant values were defined by p<0.05

Results : A total of 98 participants (54 males) were included with a mean age of 46.5 years ± 15.24. Mean hemodialysis vintage was 4.5±3.8 years. Median monthly transfused blood bags was 3[2-4], and only 12.3% of patients (n=12) were on ESA without transfusion. Moderate to severe anemia was noted in 69.4% (n=68) and hyperferritinemia in 61.2% (n=60).

Table 1: comorbidities, type of anemia treatment and biological data

Variable	effectif (n=98)	%
Hypertension	93	95
Phytotherapy	62	63.3
HIV	8	8
HCV/HBV	10	10.2
Transfusion	71	72.5
IV iron	49	50
EPO	34	34.7
Hemoglobin g/dl (mean±SD)	8.13	1.6
Ferritinemia ng/l (mean±SD)	466.4	187.5

Table 2 : factors associated with hyperferritinemia

Variable	Odd ratio [IC]	p
Univariated analysis		
≤50 years	**0.40[0.16-0.98]**	**0.04**
single	**0.30[0.13-0.71]**	**0.006**
≥3blood bag	**4 [1.74-10.13]**	**0.001**
IV iron	**0.41[0.18-0.94]**	**0.03**
EPO	**2.85[1.12-7.23]**	**0.02**
CRP<6mg/l	**0.38[0.13-1.06]**	**0.04**
Multivariate analysis		
≥3blood bag	**4.39[1.3-15.0]**	**0.003**

Table 3: mortality and cardiovascular (CV) events according to ferritinemia

outcome	Ferritinemia >500ng/l (%) n=60	Ferritinemia ≤500ng/l (%) n=38	p
Death	17 (28.3)	4 (10.5)	**0.027**
CV event	8 (13.3)	2(5.2)	0.17
Death or CV event	22 (36.7)	5(13.1)	**0.037**

Conclusion: Hyperferritinemia in common in our setting and mainly link to polytransfusion. It is associated to increase death and cardiovascular events.