A microscopic view of a blood smear showing numerous red blood cells. The cells are generally spherical and pinkish-red, with some showing central pallor. The background is a light blueish-purple color.

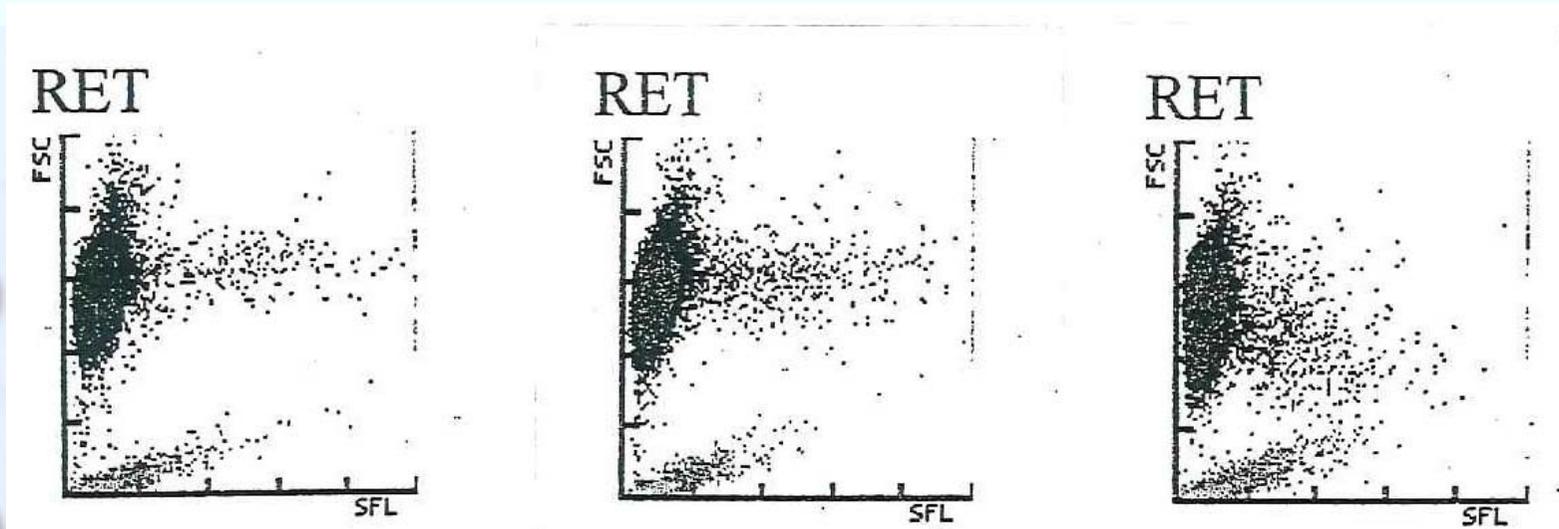
A case of anemia in a young boxer

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Signalment and History

- Devi is a 6 months old female Boxer
- Up to date on vaccination and deworming
- Acute diarrhea for 10 days after eating garbage
 - In the stool: plastic bag pieces
 - mucous membranes are pale but otherwise healthy
- Symptomatic treatment but ...
 - Chronic diarrhea and deterioration of palor

Initial diagnostics

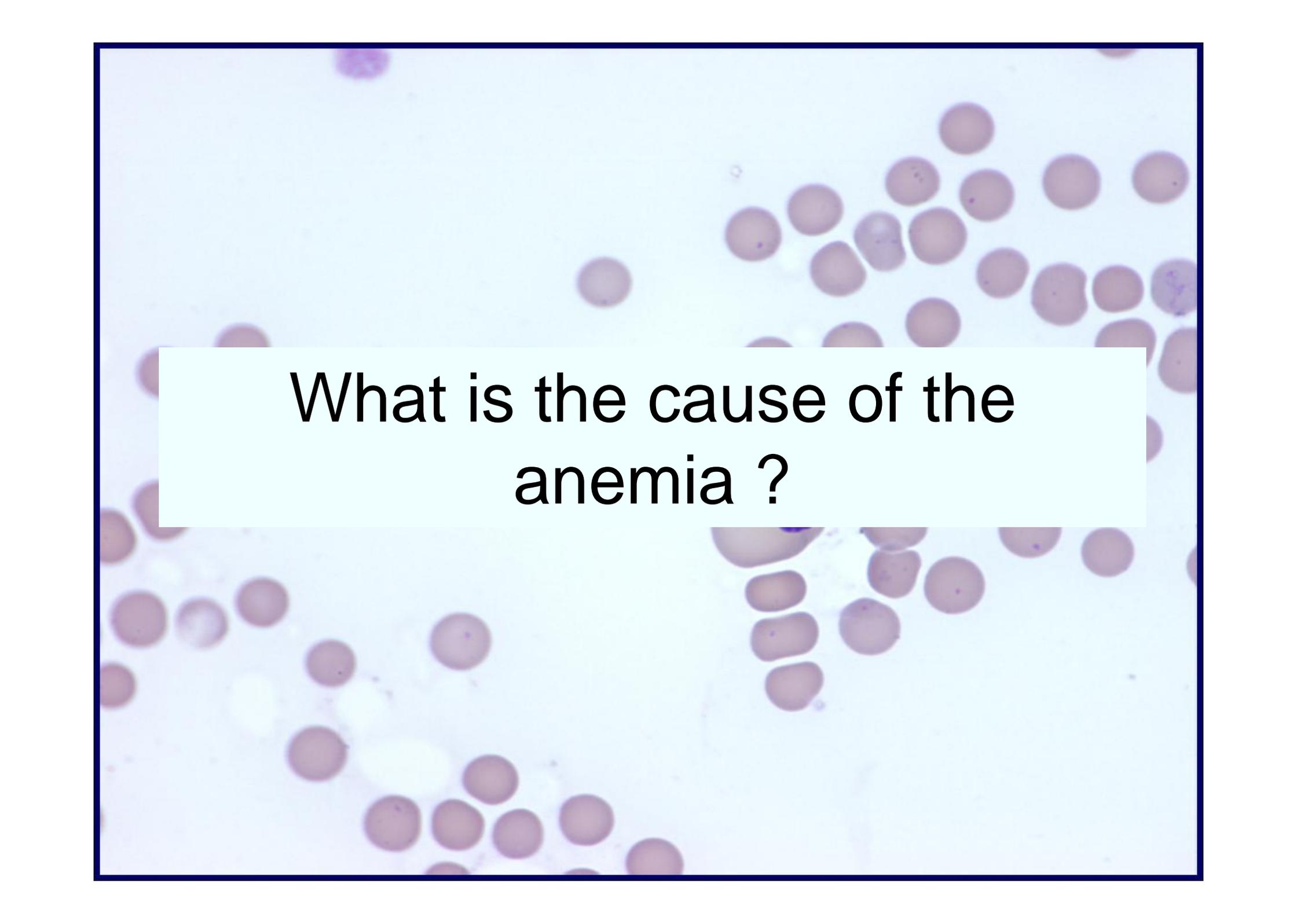


Sysmex XT-2000iV scattergram

- Fecal flotation
 - Negative
- Abdominal x-rays
 - Diagnostic for generalized ileus
- Abdominal ultrasound
 - Supportive of colitis
- CBC
 - D1 : Hgb 12,4 g/dl, MCV 65,2 fl, MCH 22,6 g/dl, reticulocytes $0,0703 \cdot 10^6/\mu\text{l}$
 - D15 : Hgb 11,9 g/dl, MCV 67,7 fl, MCH 23,2 g/dl, reticulocytes $0,1183 \cdot 10^6/\mu\text{l}$
 - D30 : Hgb 10,2 g/dl, MCV 63,5 fl, MCH 20,9 g/dl, reticulocytes $0,1298 \cdot 10^6/\mu\text{l}$

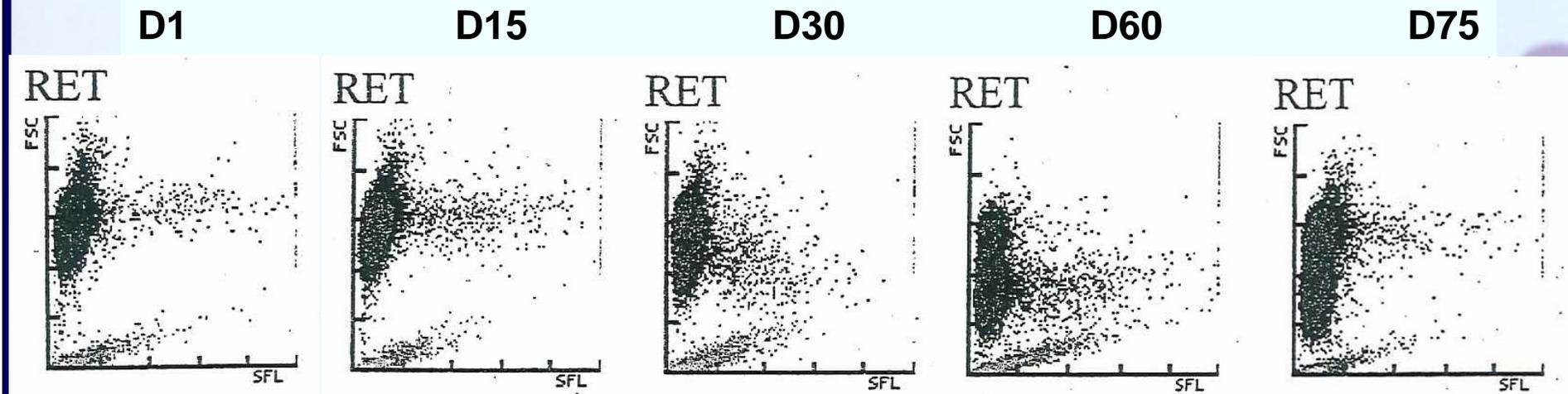
Diagnostics continued ...

- As diarrhea continued
 - With non specific treatment
- As hemoglobin concentration decreased
- On day 30, endoscopic evaluation and large intestinal biopsy
 - Histiocytic colitis

A microscopic view of a blood smear showing numerous red blood cells (erythrocytes) stained with a purple dye. The cells are generally spherical and uniform in size, with some showing central pallor. A few white blood cells are also visible, characterized by their larger size and distinct nuclei. The background is a light, slightly bluish-purple color.

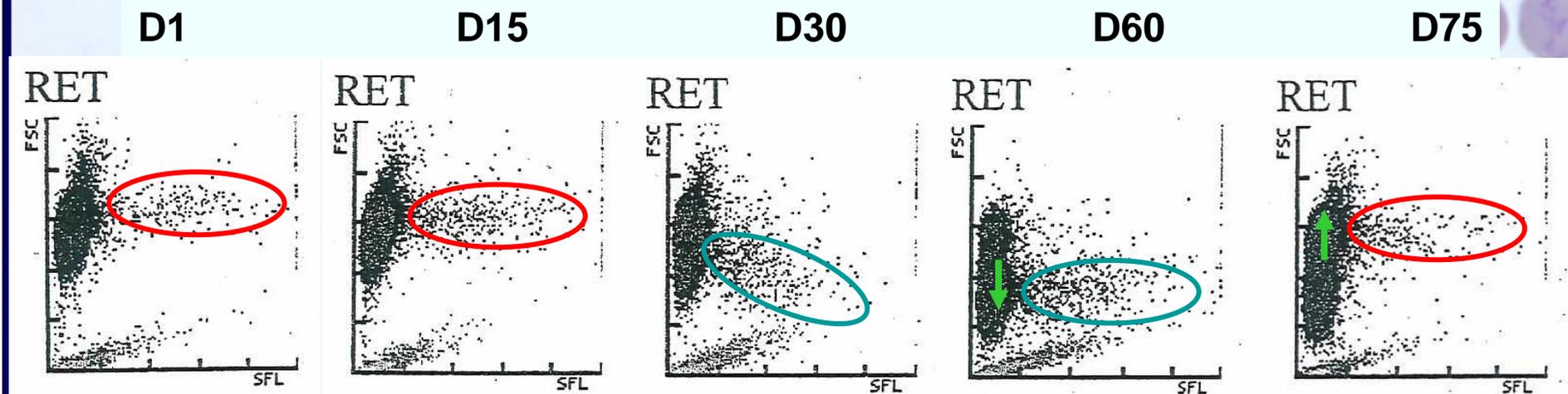
**What is the cause of the
anemia ?**

Follow up



- Diarrhea resolved with specific treatment
- Anemia worsens and later improves with iron supplementation and resolution of diarrhea
 - D 60 : Hgb 7,4 g/dl, MCV 45,6 fl, MCH 13,9 g/dl, reticulocytes $0,1248 \cdot 10^6/\mu\text{l}$
 - D75: Hgb 12,7 g/dl, MCV 51,0 fl, MCH 17,6 g/dl, reticulocytes $0,0643 \cdot 10^6/\mu\text{l}$

The position of reticulocytes helps to predict the development of an iron deficiency anemia



- Position of reticulocyte on the FSC axis of the RET scattergram of XT-2000iV
 - Size and hemoglobin content of reticulocytes
 - Low positioned reticulocytes are observed prior to MCV decrease
 - The position of reticulocytes could help clinicians in diagnostic evaluation and treatment