



## ORIGINAL ARTICLE

# Unilateral Blindness: Exceptional Complication of Anti-Vitamin K about a Case

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## Abstract

We report the case of a patient hospitalized for management of orbital hematoma on overdose with oral anticoagulants. With the increase of the hematoma and protrusion of the eyeball, the patient came to ICU, including CT scan of the eye had objectified hemorrhagic infiltration of the orbit, head of exophthalmos. Laboratory tests, found a INR greater than 9. The treatment consisted of a vitamin K antagonist by the associated PFC in default of prothrombin complex concentrate. Ophthalmological, evolution was marked by a one-sided final straight blindness.

## Keywords

Anticoagulant therapy, Hematoma, Blindness

## Introduction

Oral anticoagulants are often prescribed for various indications. Their bleeding complications, which sit conventionally in the gastrointestinal tract, genitourinary and justified intracranial close monitoring, especially the first days and months of the prescription, and generally very close to patients who the risk of bleeding is high (especially elderly). Among the very few complications, exceptional view, reported in the literature, is the spontaneous orbital hematoma or posttraumatic [1,2]. We report this unusual observation right orbital hematoma complicating oral anticoagulants, acenocoumarol (Sintrom), head of unilateral blindness.

## Case Presentation

A young 24-years-old patient, treated chronically with acenocoumarol (Sintrom) at a dose of 2 mg per day, following a mitral valvuloplasty rather 3 years (St. Jude type), was admitted at the hospital unit short sev-

en days after an accidental overdose Sintrom®.

The review was objectified a right orbital hematoma. Indeed, the patient had consulted her doctor several times and computed tomography of the right eye objectified hemorrhagic infiltration of the orbit, extra seat and intra conical, extended to the eyelid, and the soft parts of the ipsilateral cheek, head of exophthalmos with stretching and thinning of the optic nerve (Figure 1).

Blood samples showed an INR greater than 9 and hemoglobin 4.8 g/dl. A brain scan and abdominopelvic ultrasound looking for another bleeding site were not anomalies. The assumption was based on the administration of vitamin K 10 mg by slow intravenous fresh frozen plasma (FFP) at a dose of 20 ml/kg, by default prothrombin complex concentrate, and 4 units of packed red cells. An ophthalmic opinion concluded a total loss of vision in the right eye and a prescription for steroid and an osmotherapy based mannitol 20% proposed. The Evolution was marked by a gradual decrease in the right orbital hematoma at the price of a definitive unilateral blindness. The resumption of anticoagulation, based on a low molecular weight heparin (LMWH) was possible on day 7, based on the stability of the hematoma (Figure 2).

## Discussion

The prescription of oral anticoagulants (ACO) for various reasons (thrombolytic members, pulmonary embolism, heart valve etc.) is not free of complications, especially bleeding, warranting careful monitoring. The significant frequency and prognosis, often severe



**Figure 1:** Hemorrhagic infiltration of the orbit of extra-, intra-conical seat and extended to the eyelid and soft tissues of the cheek ipsilateral.



**Figure 2:** Regression of right orbital hematoma six days after his admission, no recovery of visual acuity in the right eye.

bleeding in vitamin K, make a dramatic event with an annual incidence of fatal bleeding 1% [3,4], the eye location is not uncommon with a prevalence of 3% in patients receiving anti-vitamin K and 1.9% for patients on low molecular weight heparin (LMWH) [5].

This eye location of the hematoma is special, since if the prognosis is often not involved, the functional prognosis with risk of blindness is possible.

These hemorrhages occur during a dosing error, poor biological monitoring or drug interference (quinidine, antibiotics).

Our observation shows an important right orbital hematoma, for which the patient consulted in time, but the delay in the management was originally a definitive unilateral blindness.

Indeed, the absence of antagonizing vitamin K can be explained in our case, the lack of experience and the rarity of encountering this type of complication by the first doctor on the one hand, originally from a huge period of 7 days between overdose and hospitalization, and also by the presence of mitral valve prosthesis, raising fears of thrombotic events in case of immediate antagonism.

The assumption in this type of situation is to stop the ACO and antagonizing a prothrombin complex concentrate (PCC), which is lacking in our care for lack of this, combined with vitamin K.

A red blood cell transfusion and PFCs, if necessary, can be proposed. The evaluation of the effectiveness of the antagonist therapy is performed by an INR 30 minutes after administration of the PCB, and six hours later, when vitamin K is used: The objective is to obtain an INR below 1,5, as soon as possible.

Thus, the evolving nature of bleeding under Vitamin K antagonist (VKA) justified antagonizing fast to limit the progression of the hematoma and prevent the occurrence of hemorrhagic another location, in contrast to our patient, where antagonizing n' was established after

admission to our service, seven days after the onset of bleeding. On the eye level, if the vision was persistent, surgical decompression after antagonizing could have improved functional outcomes, avoiding blindness.

The reintroduction of VKA should be a multidisciplinary consultation with determining the risk/benefit ratio, which should be discussed on a case by case basis. In our case, it was carried out, remember, the 7<sup>th</sup> day after admission, without consequences for the Valve prosthesis, attested by a normal transthoracic echocardiography, based on the stability of the lesions (no reassignment) and on recommendations proposed by the High Authority for Health (April 2008), where a normocoagulation window of one to two weeks may be proposed, although the level of evidence is low [4].

## Conclusion

Literature is poor on the characteristics and frequency of this complication apart from some sporadic cases where evolution is generally favorable.

Although generally considered benign and harmless, subconjunctival hemorrhage, traumatic or not, can produce considerable morbidity, including its management deserves special attention: Immediate cessation of anticoagulant and antagonizing emergency. Vitamin K antagonists are now used for over half a century, though their operation remains very delicate. Their significant iatrogenic, their short therapeutic window, the character very often severe and progressive bleeding with oral anticoagulants, imposes as quickly as possible antagonism, which remains the only way to stabilize lesions.

At the current state of knowledge, only prothrombin concentrates (PCC or PPSB) can meet these goals by acting immediately, even in the presence of situations where anticoagulation is necessary (mechanical valve prosthesis in particular). Apart from rare thromboembolic events administering human prothrombin complex, this preparation is very interesting seen its speed

of action. There introduction of anticoagulants, pass, then second.

## Conflicts of Interest

There is no conflicts of interest.

## References

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