



**ACUTE REACTIVES AND MARKERS OF
INFLAMMATION IN VENOUS
THROMBOEMBOLISM DISEASE:
CLINICAL AND EVOLUTION OUTCOMES.**

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**Pablo Javier Marchena Yglesias
Internal Medicine & Emergency
Department**



hospitalidad

CALIDAD

RESPECTO

RESPONSABILIDAD

ESPIRITUALIDAD

- Inflammatory processes may play a key role in venous thrombosis, by inducing a procoagulant state through the action of cytokines and chemokines on monocytes and endothelial cells.
- Interleukin 6 (IL-6), interleukin 8 (IL-8) and monocyte chemotactic protein 1 (MCP-1), that mediate the cross-talk between inflammation and coagulation

| | OD (IC 95%) |
|-------|------------------------------|
| IL-6 | 1.520 (95% CI 1.177 - 1.962) |
| IL-8 | 1.095 (95% CI 1.002 - 1.196) |
| MCP-1 | 1.000 (95% CI 0.988 - 1.012) |

| | POSITIVE VTD | OD (IC 95%) |
|-------|--------------|----------------------|
| IL-6 | 25,8% | 2.4 (95% CI 1.5-3.8) |
| IL-8 | 21,5% | 2.0 (95% CI 1.2-3.5) |
| MCP-1 | 24,1% | 1.9 (95% CI 1.2-3.2) |

Matos MF et al. The role of IL-6, IL-8 and MCP-1 and their promoter polymorphisms IL-6 -174GC, IL-8 -251AT and MCP-1 -2518AG in the risk of venous thromboembolism: A case-control study. *Thrombosis Research* 128 (2011) 216–220

Van Aken, B.E. et al. Recurrent venous thrombosis and markers of inflammation *Thrombosis and Haemostasis* 83 (4), 2000: 536-539

- Interleukin 8 (IL-8)
 - Stimulates neutrophil adhesion to endothelium by activating integrins in the vascular wall
- Interleukin 6 (IL-6)
 - Coagulation without affecting promotes fibrinolysis by stimulating prothrombotic factors (F-VIII) and reducing hemostasis inhibitors (AT-III)

To assess whether IL-6 , IL-8, CPR , ESR , fibrinogen and D-dimer at the diagnosis of venous thromboembolic disease have correlation with clinical outcomes (recurrence, bleeding, postthrombotic syndrome and death) in 12 month follow up .

- **Analyzed : 100 patients.**
One lost in follow up
- **Normal values :**
 - CRP < 8 mgr/dl
 - ESR < 20mm/h
 - Fibrinogen < 460 mgr/dl
 - D- dimer < 500 ng/ml
 - IL-6 < 10 pg /ml
 - IL-8 < 10 pg/ ml
- **Clinical outcomes**
- **Recurrence :**
 - by image test
- **Bleeding:**
 - Major: digestive, intracranial, retroperitoneal, more than 2 blood packed
 - Minor: hematuria, epistaxis, soft tissue
- **Postpnebitic syndrome**
 - Villalta score
- **Death**

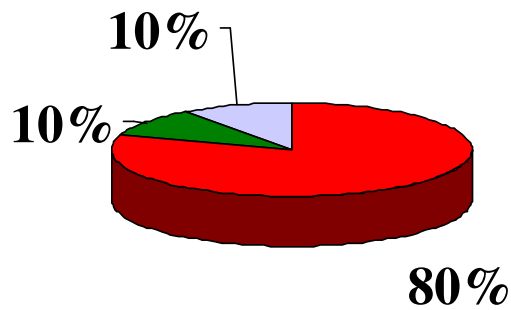


RESULTS

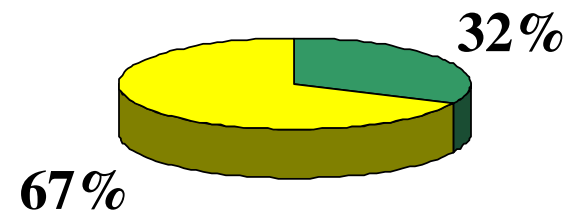
Age: 71.8 +/- 12.8

Gender : 53% women

Outcomes: 62



■ DVT ■ PE ■ Both



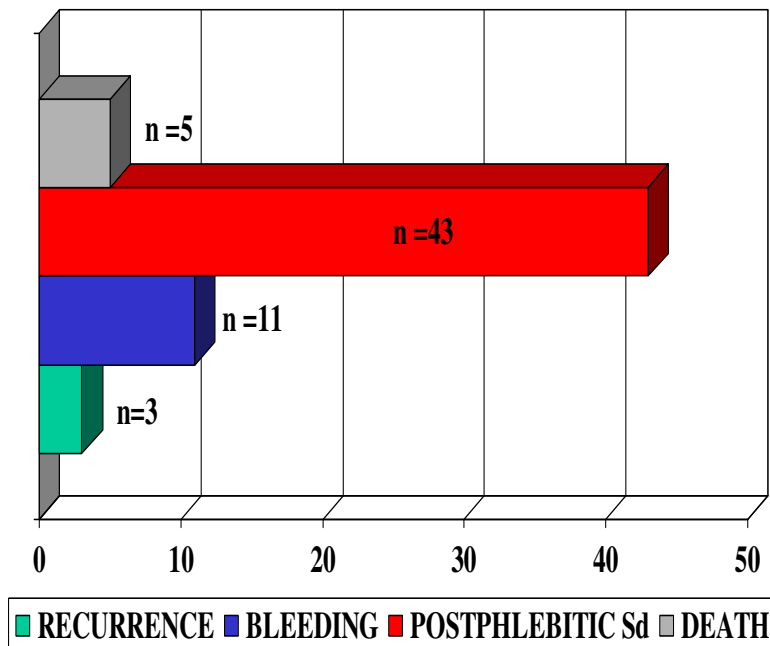
■ VTD UNPROVOKED
■ VTD SECONDARY

RESULTS

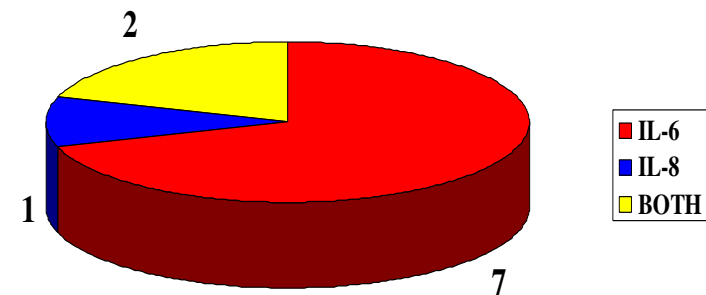
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HIGH LEVEL INTERLEUKIN



IL-6: 22.05 ± 60.04 (10-431)

IL-8: 40 ± 170.57 (10-1000)

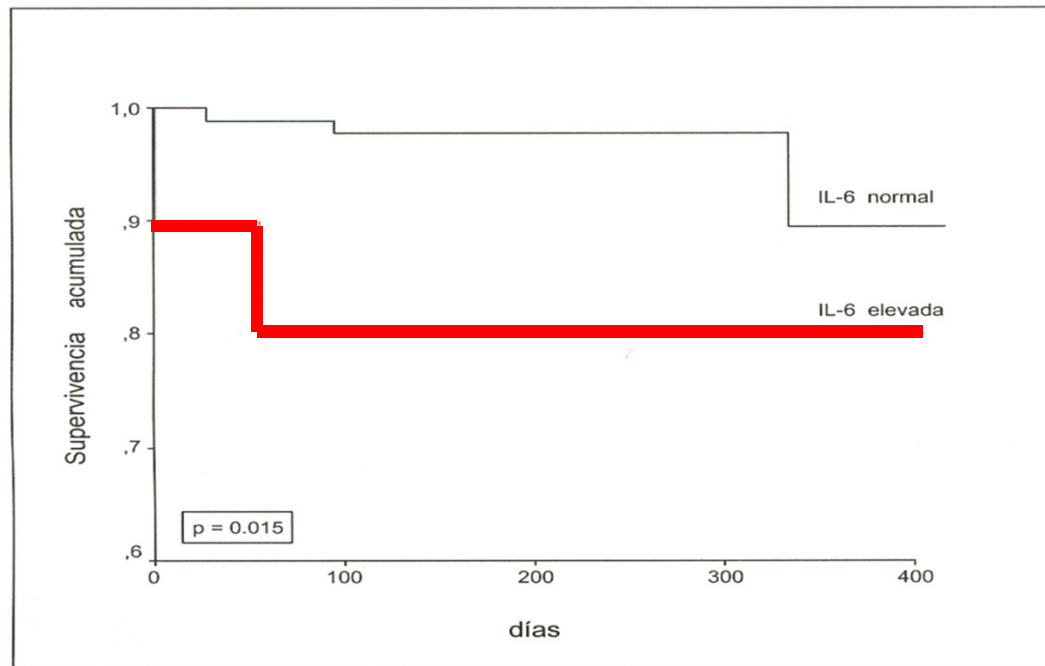
| OUTCOMES | CRP (n=63) | ESR (n=40) | Fib (n=52) | D-D (n=75) | IL-6 (n=9) | IL-8 (n=3) |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| RECURRENCE (n =3) | 1 | 2 | 0 | 2 | 1 | 0 |
| BLEEDING (n =11) | 6 | 6 | 6 | 8 | 1 | 0 |
| POSTPHLEBITIC Sd (n = 43) | 24 | 14* p=0.02 | 21 | 35 | 2 | 1 |
| DEATH (n =5) | 4* P=0.03 | 1 | 1 | 5* P=0.002 | 2* p= 0.05 | 1 |
| TOTAL OUTCOMES (%) | (35) 55% | (23) 57% | (28) 53% | (50) 66% | (6) 66% | (2) 66% |

| VTD | IL-6 >10pg/ml (n = 9) | IL- 8 > 10pg/ml (n =3) |
|--------------------------|-----------------------|------------------------|
| VTD UNPROVOKED | 0 | 1 |
| VTD SECONDARY | 9* | 2 |
| DVT (N = 86) | 7 | 3 |
| PE (N = 13) | 3 | 0 |
| COMMON FEMORAL | 9 | 0 |
| DEEP FEMORAL | 5 | 1 |
| SURFACE FEMORAL | 2 | 0 |
| POPLITEAN / TRUNK | 3** (CPR p=0.05) | 1 |

* p = 0.05

** p= 0.034

Figura 1. Supervivencia de los pacientes en función de los niveles de IL-6.



- High levels IL-6 at diagnosis
 - Higher death
 - Secondary VTD
 - Poplitean / trunk fibular peroneal DVT
- High levels of ESR at diagnosis
 - Postphlebitic sd.
- High CRP and D-Dimer at diagnosis
 - Death



THANK YOU



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