

# An International Network for Recurrent and Familial Forms of Hemolytic Uremic Syndrome and Thrombotic Thrombocytopenic Purpura

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Hemolytic Uremic Syndrome (HUS) and Thrombotic Thrombocytopenic Purpura (TTP) are two closely related rare entities (HUS with an incidence of 2.5:10.000 cases/year and TTP with 3.7:1.000.000 cases/year) characterized by microangiopathic haemolytic anemia and thrombocytopenia with renal and cerebral involvement.

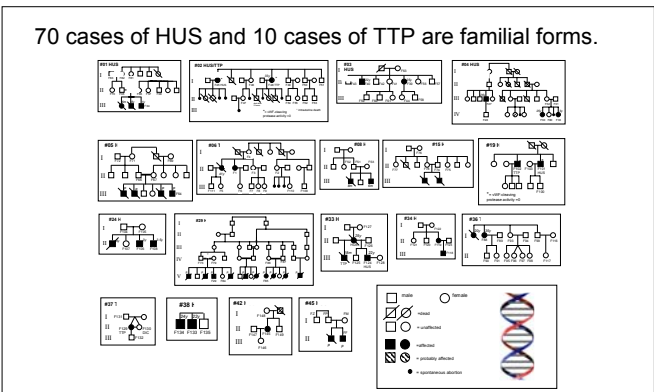
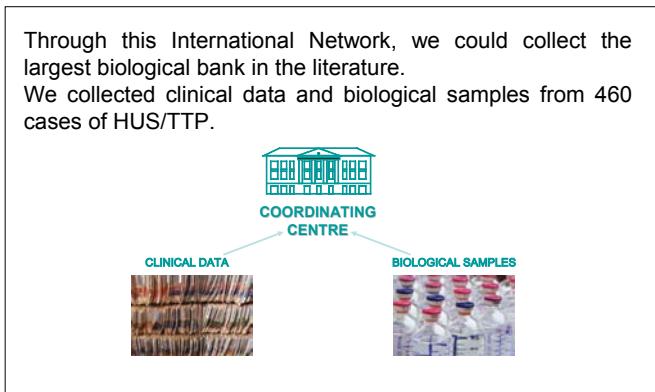
More severe and rare subsets of these diseases, called atypical HUS/TTP, can be genetically determined often occurring in families.

The knowledge on the mechanisms of HUS/TTP is limited yet, thus it's very important to identify and to study the genetic factors that contribute to the development of these disorders.

Since 1996 the Clinical Research Center for Rare Diseases Aldo e Cele Daccò, (Bergamo, Italy) coordinates an *International Registry of Recurrent and Familial HUS/TTP*.

The *International Registry* is a network comprised of 154 Hematology and Nephrology Units from 12 European countries, with the contribution of few extra-European centres.

<b>Participating Centers</b>	<b>154</b>
<b>Patients with HUS/TTP</b>	
<b>Total</b>	<b>460</b>
<b>Familial (Families)</b>	<b>80 (45)</b>
<b>Sporadic</b>	<b>380</b>



The analysis of the samples and the availability of clinical data have allowed us to establish that:

- Around 50% of cases of atypical HUS are associated with defects of complement regulatory genes:
  - Factor H (30% of cases)
  - Membrane Cofactor Protein (15% of cases)
  - Factor I (5% of cases)
- The presence of Factor H or Factor I mutation is associated with a high incidence of graft failure for disease recurrence, thus these patients should undergo a combined liver-kidney transplant.
- Graft outcome is usually favorable in patients with MCP mutation.
- A congenital deficiency of ADAMTS13 is present in around 10% of cases of TTP.

This study demonstrates that collaborative international projects can be performed even for rare diseases, through the availability of Registries and Networks.