

Mild Haemophilia in Children

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Mild Haemophilia Classification

- Factor level >0.05 iu/ml to 0.40 iu/ml

Subcommittee on Factor VIII and IX of Scientific and Standardization
Committee of International Society of Thrombosis and Haemostasis

Mild Haemophilia

Classification

- Upper limit for mild haemophilia is vague
- The wider the range- the greater the proportion of females
 - up to 10% if range 0.05-0.5 iu/ml
- Females have same risk of bleeding as males with same level

Mild Haemophilia

Epidemiology

- Proportion with mild haemophilia varies

Resources available

Awareness of haemophilia among health care professionals

- Annual Global Survey 2004 WFH----- GNP

34% mild, 43% severe- GNP per capita >10,000 US

18% mild, 50% severe- GNP per capita < 2,000 US



- Swedish survey of all patients with haemophilia

35% 1960,

54% 1980

Current status of Swedish hemophiliacs : A demographic survey. Blomback et al . Acta Med Scand 1982 ;212: 195-300

- Small countries- skewed

Mild Haemophilia

Diagnosis

Family investigation- 64% of cases

After 1 or 2 bleeding episodes at mean age of 5.5 years

Venkateswaran et al. Mild haemophilia in children: prevalence , complications and treatment. J Paediatr Hematol Oncol 1998;20:32-35.

Average age at diagnosis 2.4 years – France

Chambost et al. What factors influence the age at diagnosis of haemophilia?
Results of the French hemophilia cohort J Pediatr 2001;141:548-552

Mild Haemophilia

Diagnosis



If family history, diagnosis at birth,
umbilical cord blood sample or peripheral venous sample

If no family history, diagnosis after bleeding with significant trauma or surgical procedure.

- Circumcision
- Tonsillectomy
- Dental extractions
- Sports injuries
- Accidents

Many adult males diagnosed when pre-operative screening tests are abnormal

Children with signs of abuse: when is it not child abuse?

- [Laposata ME](#), Am J Clin Pathol. 2005 Jun;123 Suppl:S119-24.

Bruises, blood coagulation tests and the battered child syndrome.

- [Lee AC](#). Singapore Med J. 2008 Jun;49(6):445-9; quiz 450.

Coagulation testing in the evaluation of suspected child abuse.

- [Olivieri M](#), Hamostaseologie. 2009 May;29(2):190-2.



Mild haemophilia

Laboratory Diagnosis

- **APTT**

sensitivity of reagent

deficient factor level

- **specific factor assay**

difficulties certain molecular defects-

Mild Haemophilia

Differential diagnosis

Haemophilia A

- von Willebrand's disease
- combined deficiency of factor V and VIII

Haemophilia B

- combined deficiency of vitamin K dependent factors
- vitamin K deficiency
- liver disease
- vitamin K antagonist drugs
- congenital- γ glutamyl carboxylase, vitamin K epoxide reductase

Mild Haemophilia

Differential diagnosis

- Mild haemophilia A
- X linked
- Mutation in factor VIII gene
- Capacity of vWF to bind FVIII: normal
- Response to DDAVP : good
- Response to factor VIII concentrate: good
- 2N vWD (Normandy subtype)
- Autosomal recessive
- Mutation in vWF gene
- Capacity of vWF to bind FVIII: reduced
- Response to DDAVP: shorter effect
- Response to factor VIII concentrate: good only if vWF present

Mild Haemophilia

Bleeds -93% traumatic
-rarely spontaneous

Joint - 30%

Soft tissues - 33%

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Haemophilia A or B carriers

- excessive bleeding at menarche
- menorrhagia
- haemorrhagic ovarian cysts
- endometriosis



Mild Haemophilia

Recognizing a Bleed

- People with mild haemophilia usually bleed only after significant injury or after invasive procedures such as surgery or dental extraction.
- It is not uncommon for people with mild haemophilia to delay seeking treatment following injury because bleeding occurs so rarely and may not be recognized.

Mild haemophilia

Molecular basis

- Haemophilia A
discrepant one stage and 2 stage clotting assays
- Haemophilia B
Haemophilia B Leyden

Mild Haemophilia

- Coagulation factor concentrates
- DDAVP
- Anti fibrinolytics

Mild Haemophilia

Inhibitors

Usually after intensive exposure to factor concentrate

Haemophilia A

- 3-13% cumulative incidence by age 33
- 2 common mutations
 - 40% risk of developing inhibitor
- spontaneous tolerance in about 60% after about 9 months
- Severe bleeding/death

Haemophilia B

- extremely uncommon

Mild Haemophilia

Follow-up

- 2-3 years
- Bleeding history
- Physical exam
- Education

+/-inhibitorscreen