Major Priapism at the University Hospital: 2000 to 2010

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Background

- Priapism is a persistent penile erection that continues beyond or is unrelated to sexual stimulation[1].
- Uncommon
  - High risk groups: hematological disorders eg sickle cell disease, drug use, malignancy
  - Eland et al 1.5 per 100,000 person years[2]
- Jamaica: prevalence 42% in sickle cell patients[3]

1.Montague DK,. J Urol 2003 Oct.
2.Eland IA, Urology 2001 May
3.Emond AM, Arch Intern Med 1980 Nov

Background

- America: rise in overall incidence; 42% of priapism admissions. increase in proportion of non SCD over time.[4]
- Japan:0.13 per 100,000person years [5]

4 Chrouser et al, Am J of Sur 2011 201
5 Sugihara et al, Intl J of Impotence Research 2011 Mar

Background

- Ischemic and non ischemic
  - Ischemic: Compartment syndrome of the penis
  - Urological emergency (>4hrs irreversible changes)
- Stuttering episodes: repetitive ischemic episodes usually nocturnal lasting less than 3 hrs.

Background

Parameter	Priapsm Ischemic (low-flow)	Non ishcemic (high flow)
Prevalence	common	less common
Common associations	hematological and coagulative disorders	genital trauma, Fabry disease, intracavernosal laceration
Clinical Presentation	painful and rigidly erect penis	Painless and semi rigid penis
Natural History	stuttering episodes or permanent resolution	persistence or spontaneous correction
Corporal aspirate	hypoxic acidotic hypercarbic	normal metabolic conditions
Duplex Ultrasonography	reduced or absent cavernosal blood flow	increased cavernosal flow
Clinical Management	Urological emergency	observation appropriae
Prophylaxis	appropriate	unneccessary
Erectile Dysfunction	common	rare

- Morrison, B, N Urology, 2011

Background

- Natural History
  - 90% who had priapism >24hrs developed ED[7]
  - Major episodes are preceded by stuttering episodes in 61% of cases[8]
- Stuttering episodes are:
  - Painful
  - cause psychological distress
  - interfere with normal sexual function
  - Interfere with quality of life

– 7.Emond AM, Arch Intern Med 1980 Nov
– 8. Pryor J, J Sex Med2004 Jul

Aims

- To examine and compare the incidence and treatment of sickle and non sickle related priapism (at the University Hospital between Jan 2000 to Dec 2010)

Methods

- A computer search was conducted for the diagnostic code for priapism of the patient records at the University Hospital Jan 2000 to Dec 2010.
- Surgical ward admission books were searched to identify patients admitted for priapism.

Methods

- Case notes were examined for
  - Registration number
  - Age
  - Dates of episodes
  - History of sickle cell disease & genotype
  - Known conditions associated with priapism
  - Duration to presentation
  - Treatment
  - Trial of prophylaxis & agent

Methods

- STATA version 10

Results

- 65 patients were admitted
- 129 episodes of priapism seen

- Patients Single episodes 45 (69%)
- Patients Multiple episodes 20 (31%)

- Patients with SCD 45 (69%)
- Patients without SCD 20 (31%)

Results

- Mean time to presentation 17 hrs (1-144)

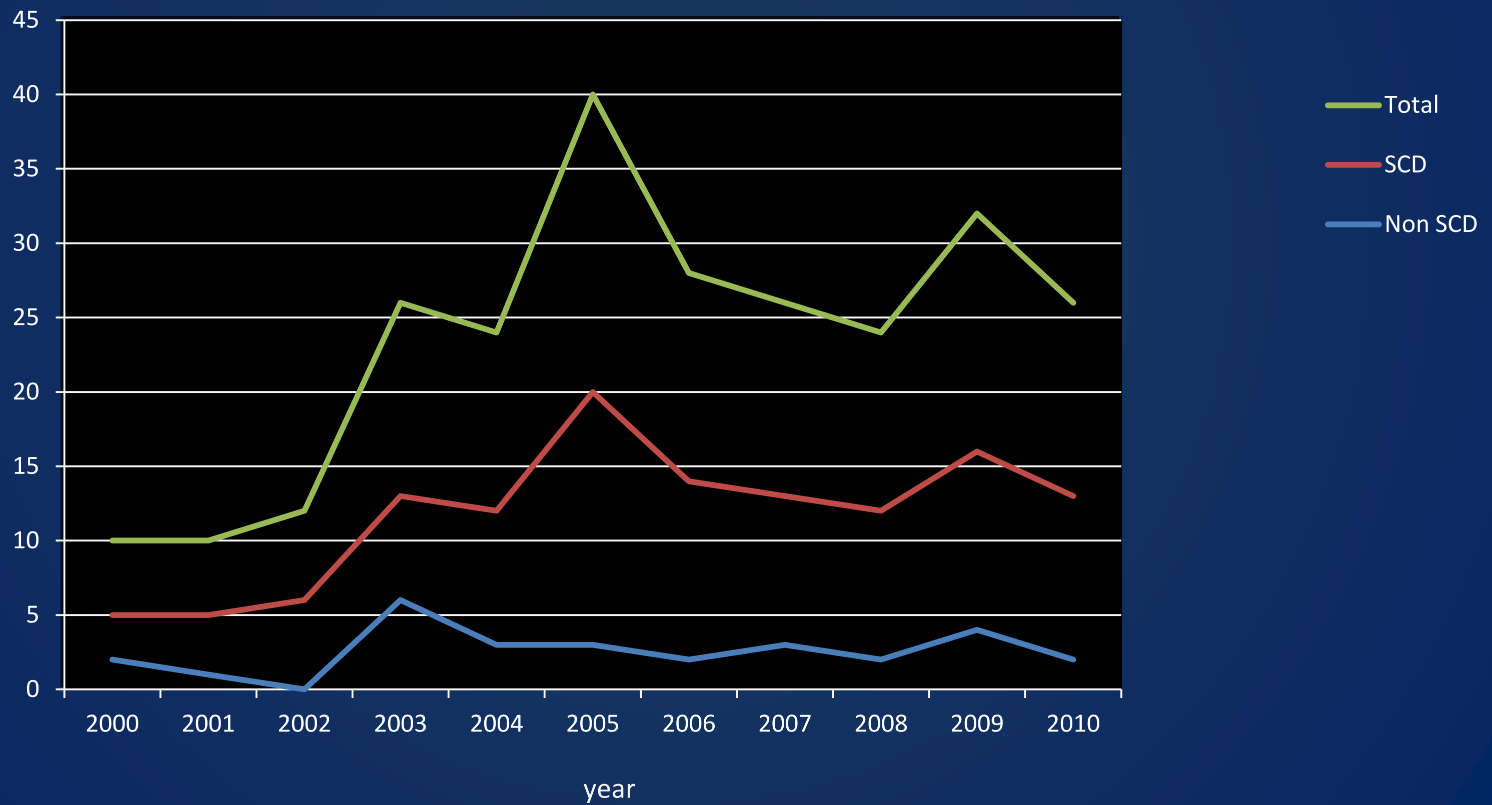
Multiplicity of Episodes

Variable	Single Episode	Multiple Episodes
Age	29.5+/-14.4	23.8+/-13.1
History of SCD	66%	75%
log Time to presentat	2.8+/-1.0	2.3+/-0.7
Treatment		
Systemic	9%	29%
Surgical intervention	91%	71%
Suspected cause		
SCD	68%	
Miscellaneous	14%	
Idiopathic	18%	

Non Sickle vs Sickle patients

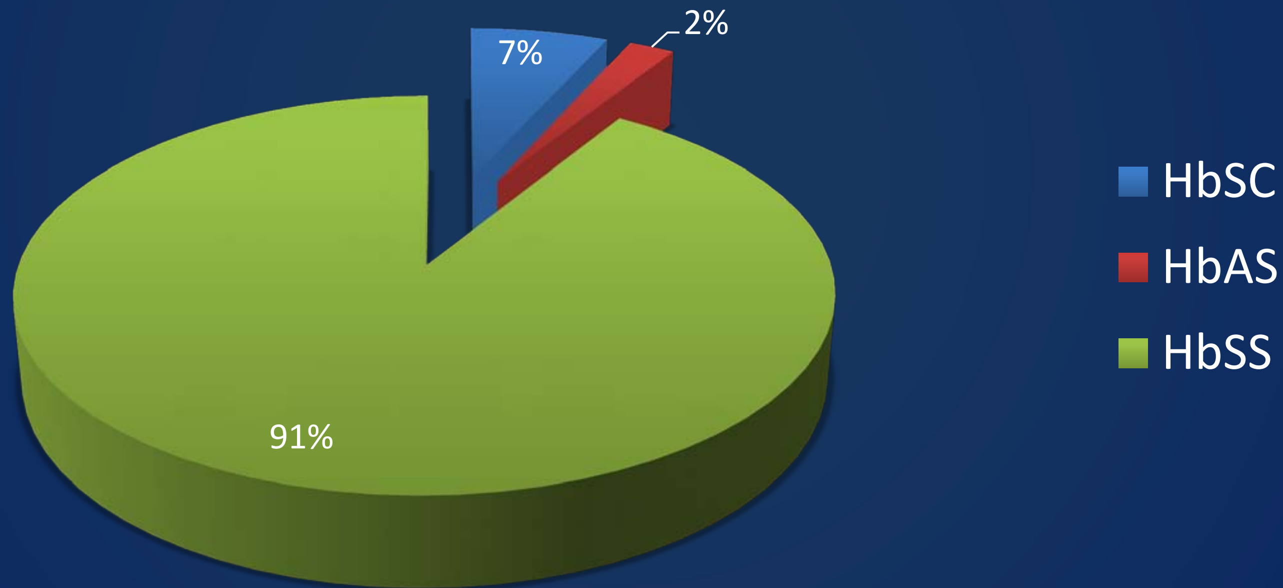
Variable	Non Sickle	Sickle
Age (yrs)	41.1+/-11.8	21.8+/-10.7
Time to presentation (hrs)	26.7	20.5
Treatment		
Surgical Intervention	81%	77%
Systemic	18%	23%
Number of episodes	21%	79%

Number of Priapism admissions 2000 to 2010; SCD vs Non SCD



Distribution of Genotype in patients with SCD

number of individuals



Prophylaxis

- Initiated in 12% (8) of entire study population
  - 75% (6) had HbSS
  - 25% (2) had HbSC
- Only 40% of patients with multiple episodes

Discussion

- SCD major aetiological factor
- Delayed presentation
- Investigate ED in these patients
- Education to high risk groups
- Documentation
- Effective prophylaxis
- Plethora of research in molecular pathophysiology of priapism- aim to improve and develop effective prophylaxis

Limitations

- Single hospital experience
- In hospital admissions
- Documentation

Conclusion

- Sickle Cell Disease is still the major aetiological factor for priapism in our setting
- Presentation remains delayed.
- Education and prophylaxis are required

Resources

- 1. Montague DK, Jarow J, Broderick GA, Dmochowski RR, Heaton JP, Lue TF, et al. American Urological Association guideline on the management of priapism. J Urol2003 Oct;170(4 Pt 1):1318-24.
- 2. Eland IA, van der Lei J, Stricker BH, Sturkenboom MJ. Incidence of priapism in the general population. Urology2001 May;57(5):970-2.
- 3. Emond AM, Holman R, Hayes RJ, Serjeant GR. Priapism and impotence in homozygous sickle cell disease. Arch Intern Med1980 Nov;140(11):1434-7.
- 4. .Chrouser K, Ajiboye O, Oyetunji T, Chang D. Priapism in the United States: the changing role of sickle cell disease. Am Jour of Surgery (2011) 201, 468-474
- 5. Sugihara T, Yasunaga H, et al. Intl J of Impotence research (2011)23, 76-80
- 6. Pryor J, Akkus E, Alter G, Jordan G, Lebret T, Levine L, et al. Priapism. J Sex Med2004 Jul;1(1):116-20.
- 7. Morrison B, Burnett A, Priapism in coagulative disorders: an update. N Urol 2011 April, 8 223-230