Fibrin Glue for Complex Anal Fistulae

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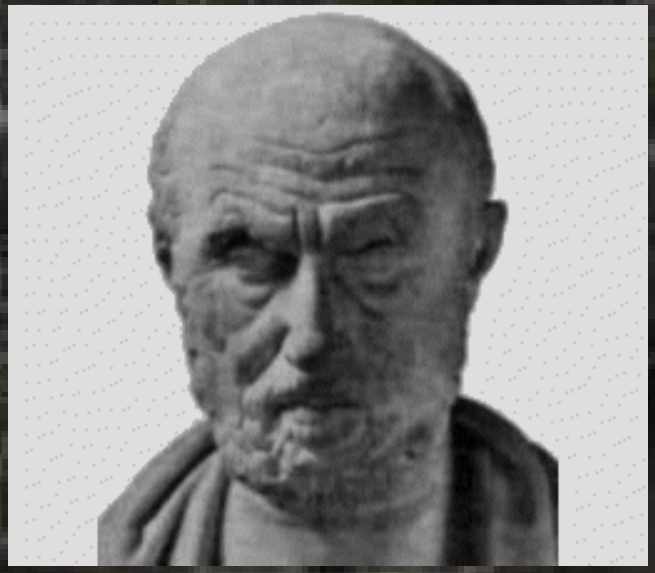
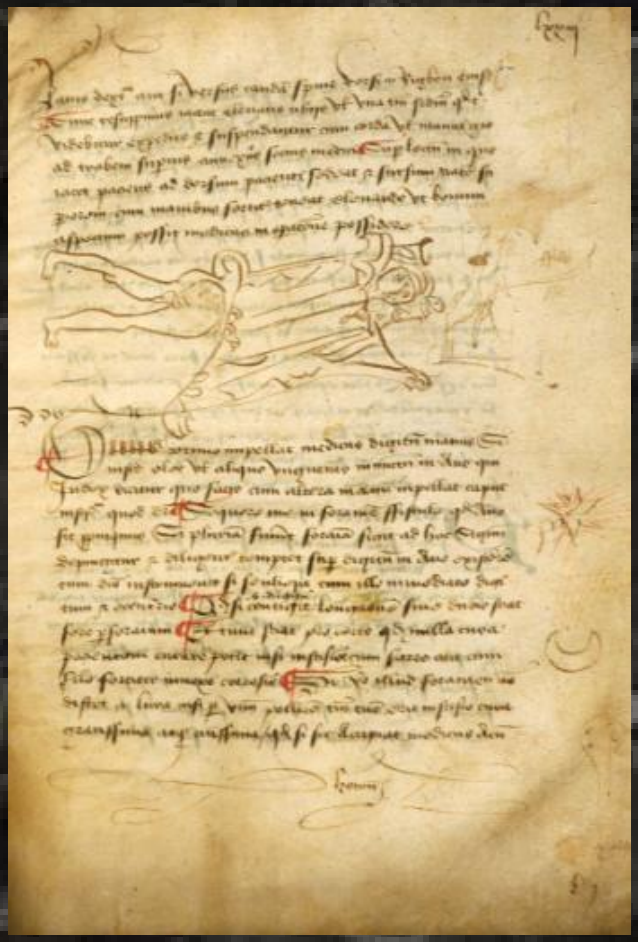
Introduction and History



Anal fistulae were known since antiquity
Hippocrates referred to its surgical treatment



Fistulotomy and seton use were described by John Arderne in 1376; Louis XIV was treated for it

2000 BC

1000 BC

1376 AD

1976 AD

2002 AD

Park refined the classification system in 1976

Despite 2500 years of experience, surgery for high, complex and recurrent fistulae is still challenging

Post operative continence, long wound healing time, patient's satisfaction and recurrence are the main issues

Fibrin Glue Treatment
The Appealing Solution

Fibrin glue treatment is still in its infancy

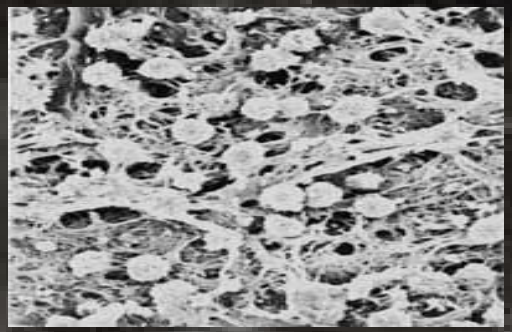
autolog ous

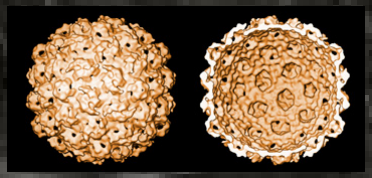
Fibrin glue

comme rcial

Commercial glues produce better results

They are easier and quicker to prepare, bond consistently and are about 10 times stronger than an autologous counterpart

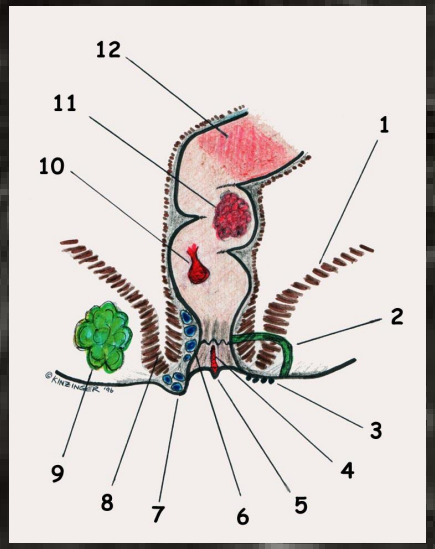




Small theoretical risk of viral transmission in commercial preparations

Investigations for correct classification of fistula

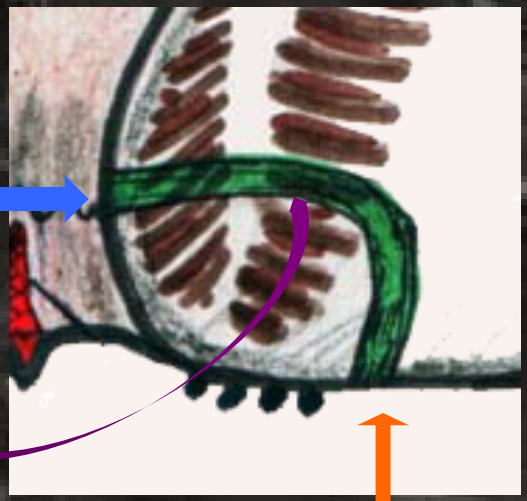
For proper classification it is imperative to identify:



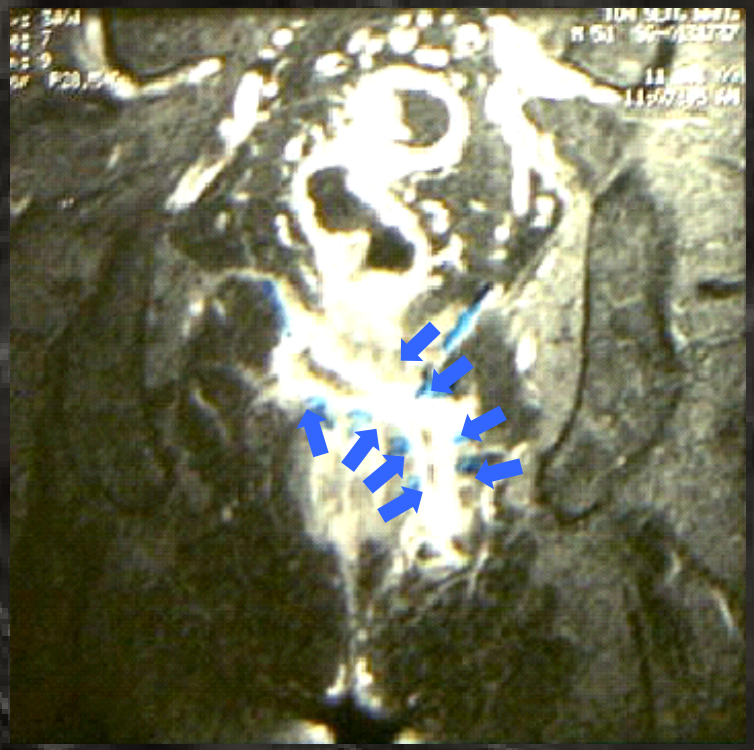
internal opening

course of tract

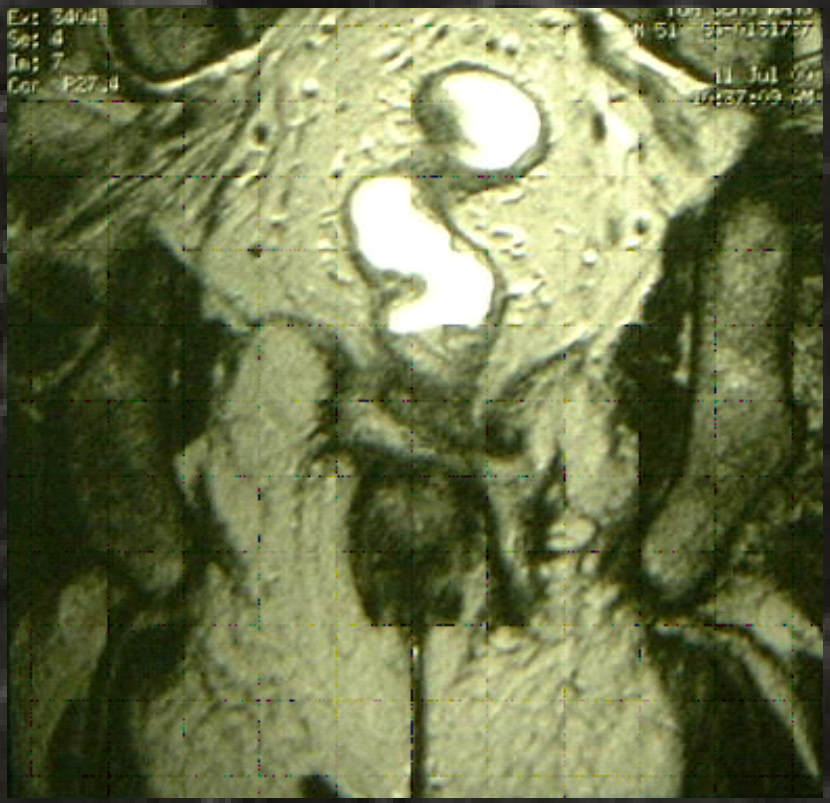
external opening



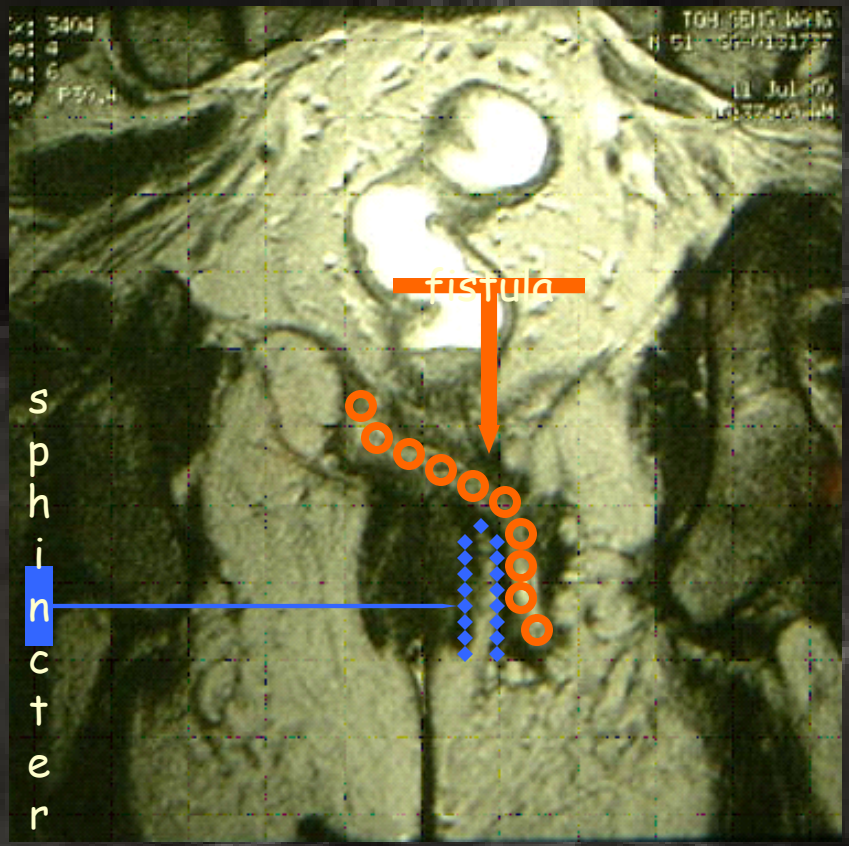
Investigations for Pre-operative Evaluation



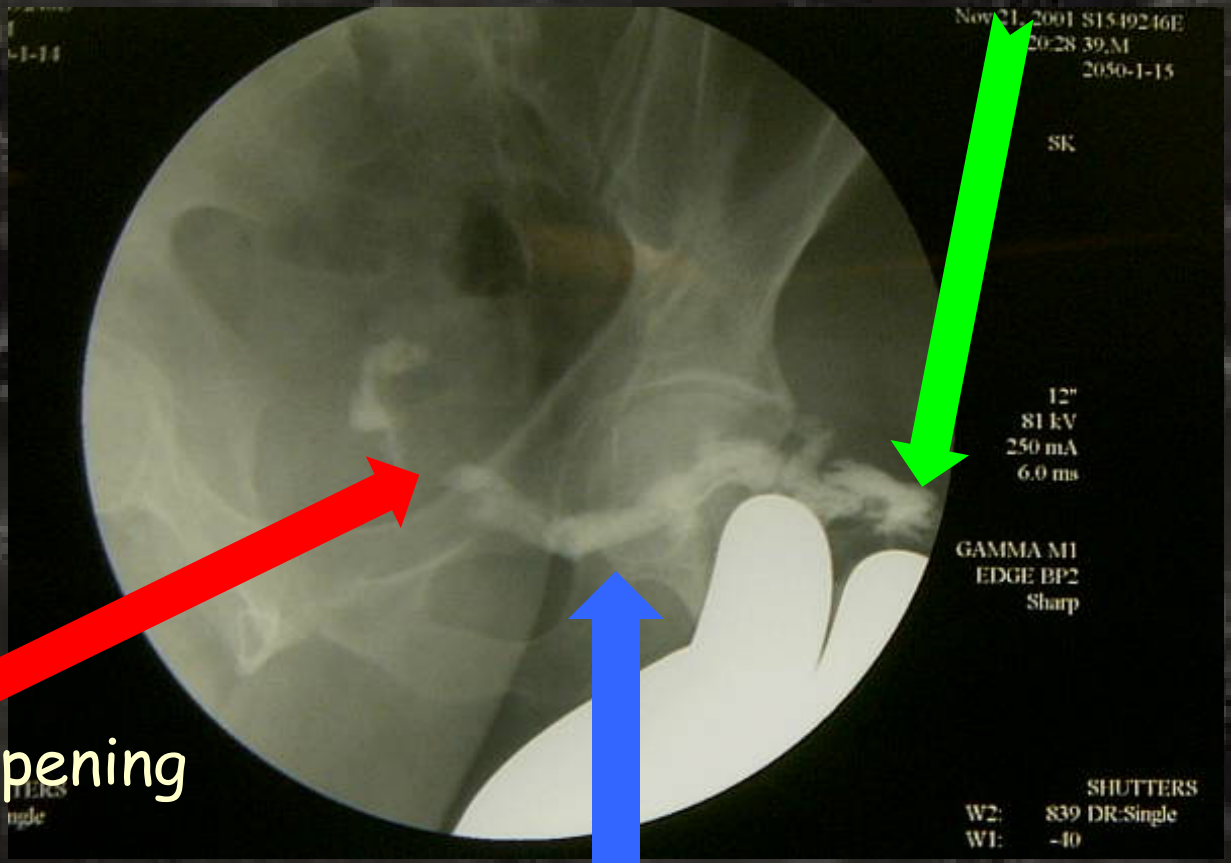
Post-GAD Fat Saturation MRI



supralevator
extrasphincteric fistula



external opening



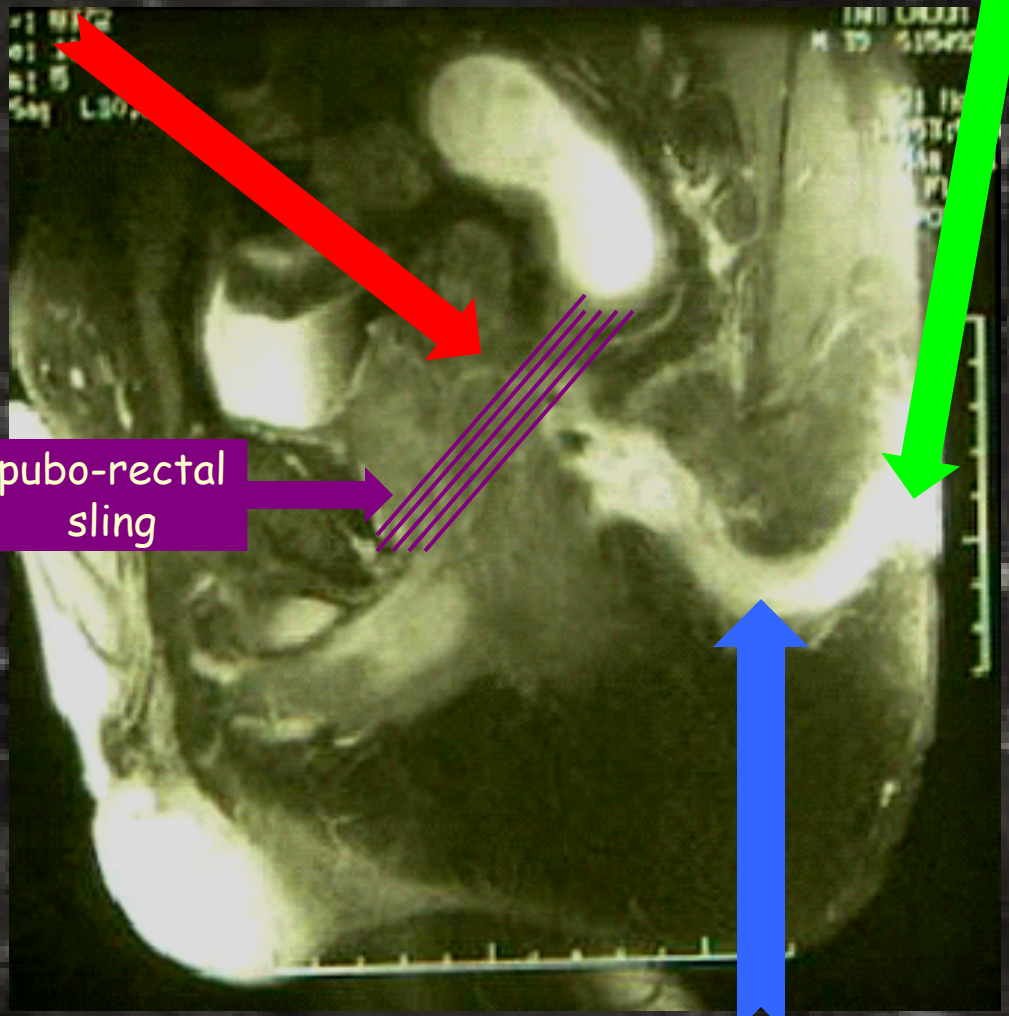
internal opening

fistula tract

Fistulogram

internal opening

external opening



fistula tract

Methodology

Patients with recurrent complex fistulae were selected from the colorectal stream of Tan Tock Seng Hospital from Oct '01 to May '02

Secondary causes of fistulae were excluded by clinical examination and investigations

Fistula tract was curetted, thoroughly washed with antiseptic solution and shortened if it was too long. Haemostasis was achieved before glue injection

Material and Application

The glue we used was TISSEEL KIT (Baxter)
Steam-treated two-component fibrin sealant

- Components
  - Tisseel solution
    (lypholized steam-treated sealar protein concentrate)
  - Aprotinin solution

- Thrombin solution
  - lypholized thrombin
  - calcium chloride solution

Material and Application


Fibrinotherm

The two solutions are prepared separately and simultaneously applied to the fistula using Duploject with application needle after preparation of the fistula tract


Duploject

Glue mixture coagulated readily, bonded firmly with the fistula lining and obliterated the fistula tract and was later incorporated within the body tissue

Results

Patient	Age	Gender	Fistula Duration	Previous Operation	Fistula Type	Outcome
1	52	M	21 months	3 times	Extrasphincteric Supralevator	
2	39	M	17 months	once	Extrasphincteric Supralevator	
3	63	M	6 months	once	Suprasphincteric	
4	72	M	20 years	once	High Trans-sphincteric	
5	41	M	2 months	once	Supralevator Extrasphincteric	

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Benefits

- Day case surgery
- Success rate is very high
- May be repeated
- No sphincter is divided and hence no incontinence
- Morbidity is at a minimum

Conclusion

Though the number of patients is limited and the follow up period is short, we have had astonishing results for our operations.

Patient's discomfort is minimal, hospital stay is very limited, continence both for flatus and faeces is good and recurrence, so far, nil.

We know recurrence takes place mostly in the early months, and therefore we expect better results than conventional surgery even in long-term follow up.

Thank you!

Presentation Design by
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