

# Incidence of pre-operative and post-operative Deep Vein Thrombosis in colorectal cancer surgery.

Interim results of the CHAMPION study

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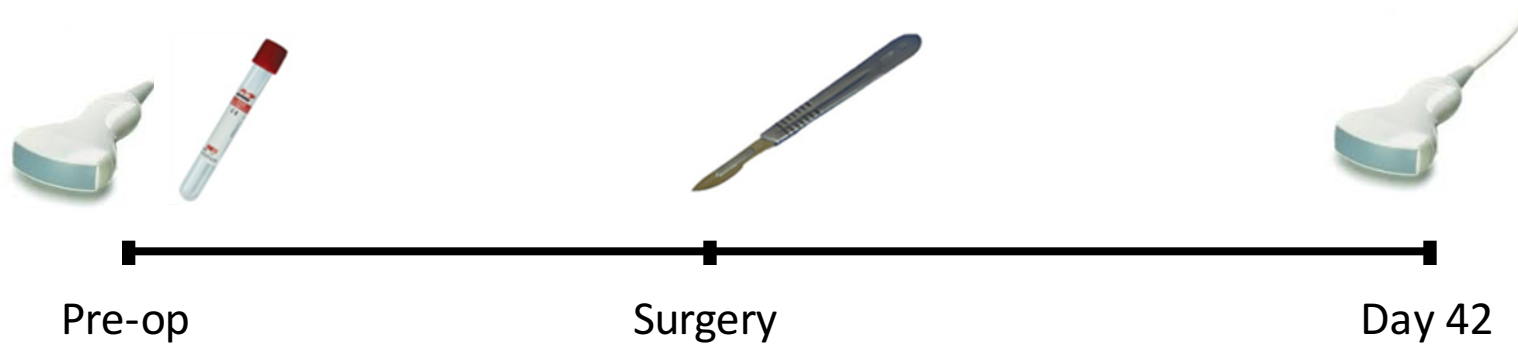
# Introduction

- Colorectal cancer risk factor for venous thromboembolism (VTE)
  - VTE is a significant cause of mortality in colorectal cancer patients
  - Population studies suggest incidence of 5.5%
  - No recent study where patients screened
  - D-dimer has been proposed as a predictor of development
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- What is the incidence of DVT in colorectal cancer patients?
  - Can D-dimer predict the development of DVT?

# Methods

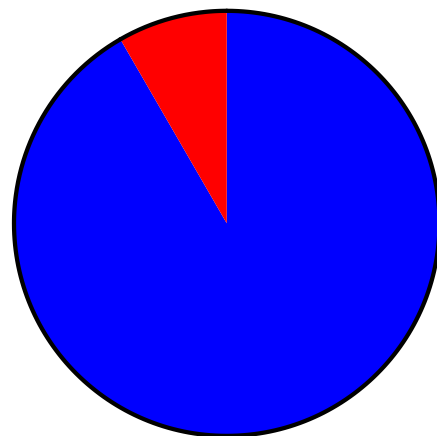
Prospective clinical study

Colorectal cancer patients undergoing curative surgery



# Results

## Incidence of pre-operative incidental DVTs



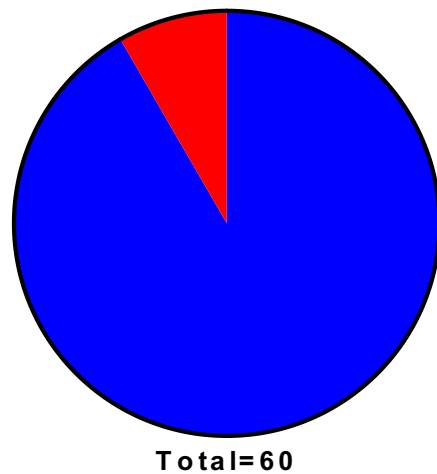
Total=60

- No pre-operative DVT (55)
- Pre-operative DVT (5)

	No pre-operative DVT	Pre-operative DVT	Significance
<b>Age Median (range)</b>	70 (43 – 90)	70 (62 – 79)	0.9
<b>Gender (M:F)</b>	31:24	3:2	0.6
<b>WHO Status</b>			
0	49	4	0.3
1	6	1	
<b>BMI Mean (range)</b>	28 (21 – 42)	28 (27 – 29)	0.9
<b>Alcohol weekly consumption (mean)</b>	5 (0 – 30)	6 (0 – 16)	1.0
<b>Hypertension</b>			
Yes	34	3	0.6
No	21	2	
<b>Diabetes</b>			
Yes	11	1	0.6
No	44	4	
<b>Antiplatelet use</b>			
Yes	17	1	1.0
No	38	4	

# Results

## Incidence of pre-operative incidental DVTs

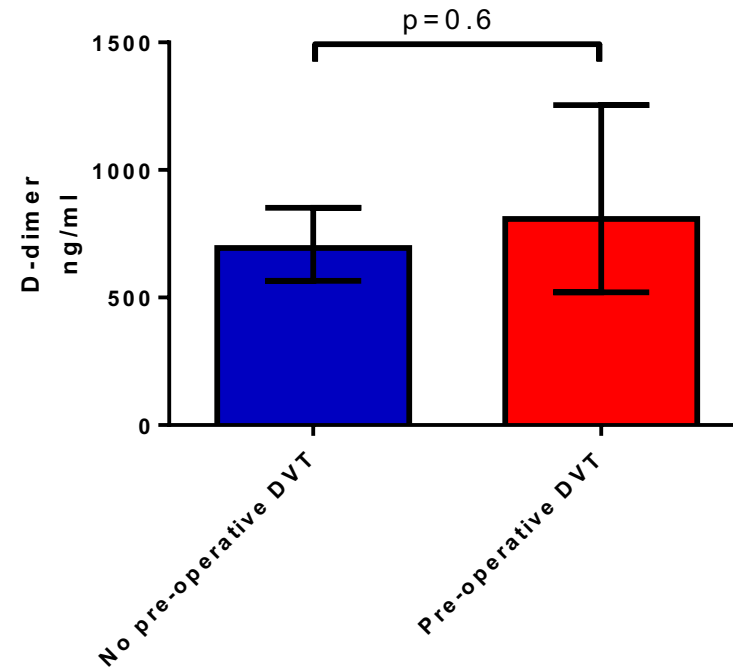


- No pre-operative DVT (55)
- Pre-operative DVT (5)

	No pre-operative DVT	Pre-operative DVT	Significance
<b>T stage</b>			
T1	3	1	0.1
T2	14	3	
T3	23	0	
T4	14	1	
<b>Node +ve</b>			
Yes	16	2	1.0
No	39	3	
<b>LVI present</b>			
Yes	15	1	1.0
No	33	2	
<b>Size of tumour</b>			
Mean (mm)	44	29	0.07
range	(15 – 80)	(5 – 50)	
<b>TNM stage</b>			
1	10	3	0.2
2	29	0	
3	16	2	

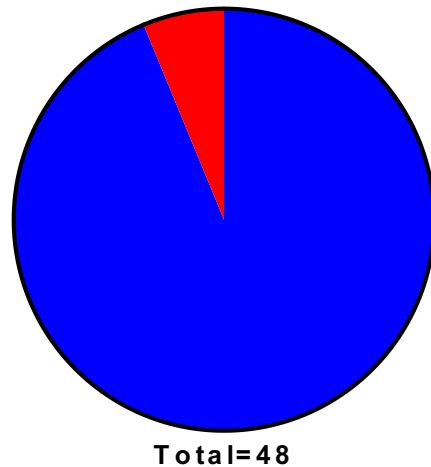
# Results

## D-dimer in patients with incidental DVTs



# Results

## Incidence of post-operative DVTs

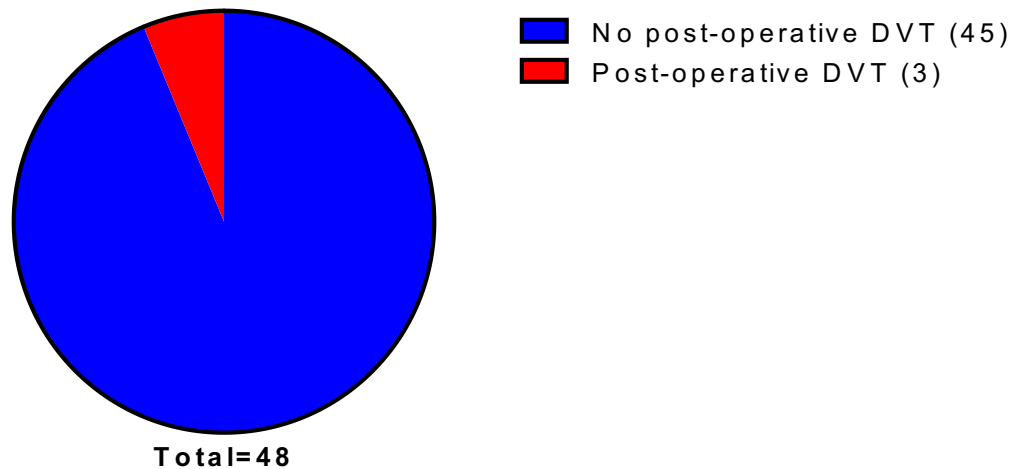


■ No post-operative DVT (45)  
■ Post-operative DVT (3)

	No post-operative DVT	Post-operative DVT	Significance
<b>Age</b>	69 (43 – 87)	72 (61 – 90)	0.6
<b>Median (range)</b>			
<b>Gender (M:F)</b>	27:18	2:1	1.0
<b>WHO Status</b>			
<b>0</b>	36	3	1.0
<b>1</b>	4	0	
<b>BMI</b>	28	28	0.6
<b>Mean (range)</b>	(21 – 42)	(27 – 29)	
<b>Alcohol weekly consumption (mean)</b>	5 (0 – 30)	2 (1 – 2)	0.5
<b>Hypertension</b>			
<b>Yes</b>	28	2	1.0
<b>No</b>	17	1	
<b>Diabetes</b>			
<b>Yes</b>	8	0	1.0
<b>No</b>	37	3	
<b>Antiplatelet use</b>			
<b>Yes</b>	13	1	1.0
<b>No</b>	32	2	

# Results

## Incidence of post-operative DVTs

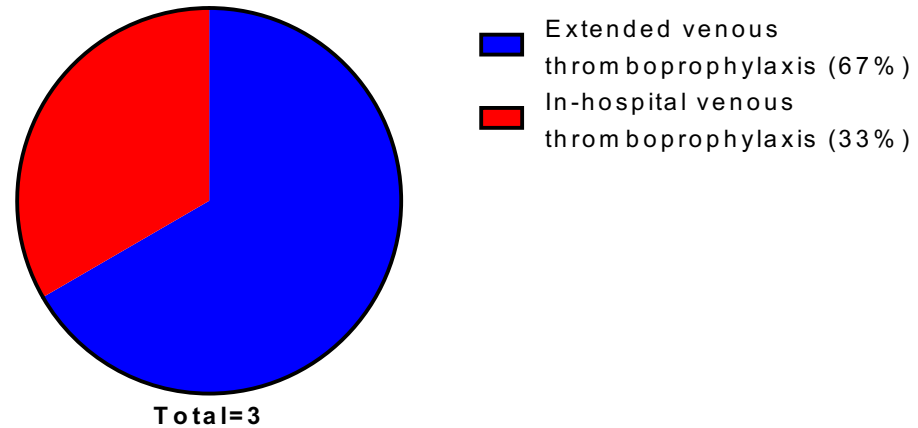


	No post-operative DVT	Post-operative DVT	Significance
<b>T stage</b>			
T1	3	0	1.0
T2	11	1	
T3	19	1	
T4	12	1	
<b>Node +ve</b>			
Yes	11	3	<b>0.02</b>
No	34	0	
<b>LVI present</b>			
Yes	12	2	0.2
No	30	1	
<b>Size of tumour</b>			
Mean (mm)	45	36	0.4
range	(15 – 80)	(25 – 45)	
<b>TNM stage</b>			
1	9	0	<b>0.03</b>
2	25	0	
3	11	3	



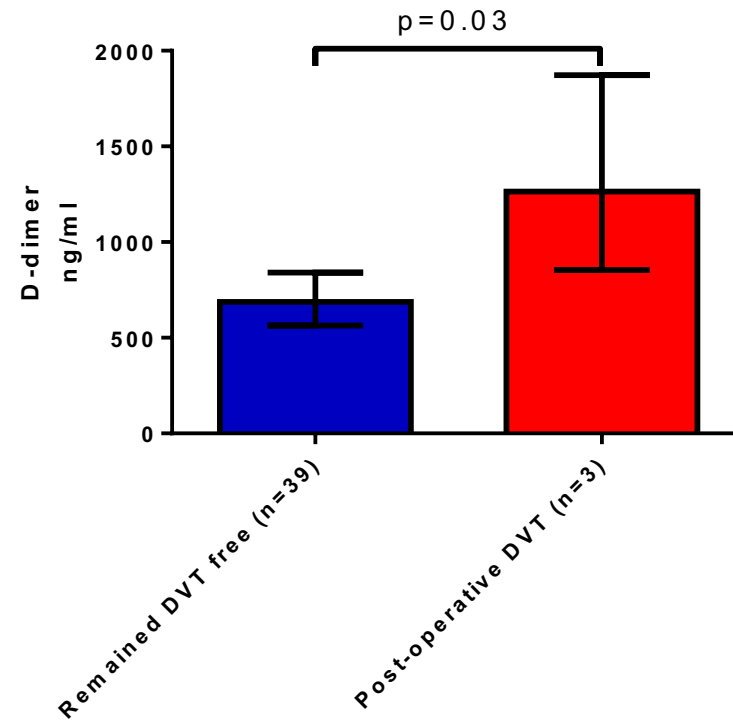
# Results

## Use of thromboprophylaxis in patients developing post operative DVTs



# Results

## Pre-operative D-dimer in patients developing post-operative DVTs



# Conclusion

- 8% of patients undergoing surgery for colorectal cancer have asymptomatic DVTs
- 6% develop post-operative DVTs despite thromboprophylaxis
- Lymph node positivity may be a risk factor for developing post-operative DVTs
- Pre-operative D-dimer may identify those at risk of developing a post-operative DVT