



### The Early Venous Reflux Ablation (EVRA) ulcer study



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on behalf of the EVRA trial investigators



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### Disclosure

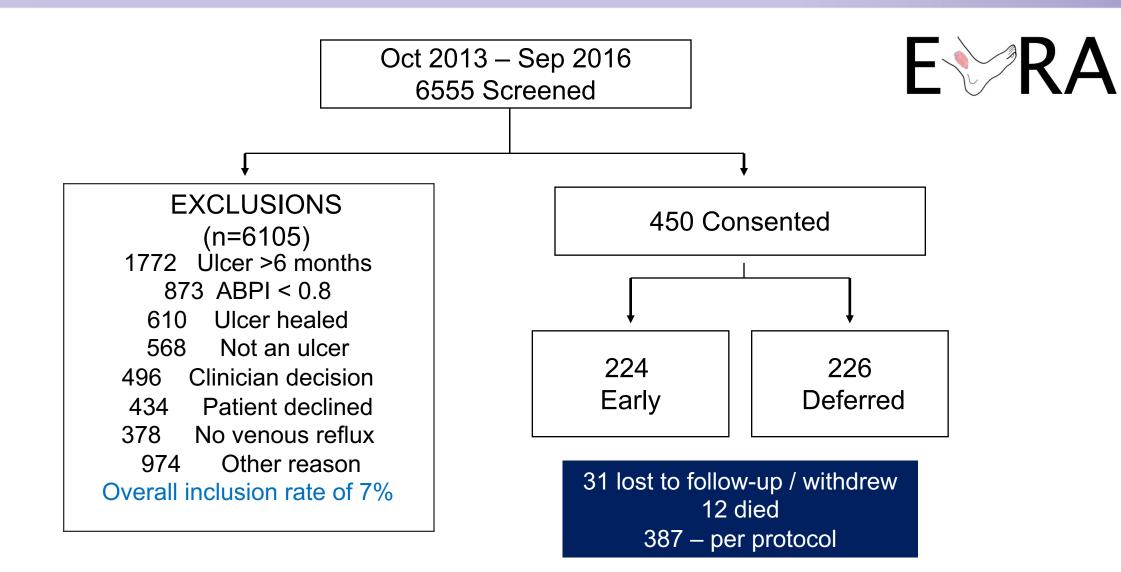
Speaker name: Manj Gohel

I have the following potential conflicts of interest to report:

Consulting / Honoraria / Speaker fees
Medtronic, Cook Medical

✓ Other(s): Research grant Laboratoires Urgo

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### **Baseline information**



### **Baseline characteristics**

	Early	Deferred
	N=224	N=226
Age	67.0 (15.5) [n=224]	68.9 (14.0) [n=226]
BMI (kg/m²)	30.1 (7.8) [n=218]	30.4 (7.4) [n=219]
Gender		
Female	97 (43.3%)	106 (46.9%)
Male	127 (56.7%)	120 (53.1%)
Previous DVT in trial leg		
No	206 (93.3%)	203 (93.4%)
Yes	15 (6.7%)	15 (6.6%)

Mean (SD) presented for Age and BMI



### **Baseline information**



### **Baseline characteristics**

Mean (SD) presented for A<sub>{</sub>

**Baseline reflux patterns** 

	-	
	Early	Deferred
	N=224	N=226
Superficial venous reflux		
GSV reflux alone	123 (54.9%)	125 (55.4%)
SSV reflux alone	25 (11.2%)	30 (13.3%)
GSV and SSV reflux	65 (29.0%)	56 (24.8%)
Other pattern of reflux	11 (4.9%)	15 (6.6%)
Deep veins		
Normal	150 (67.0%)	157 (69.5%)
Abnormal	74 (33.0%)	69 (30.5%)
Reflux	74 (100%)	69 (100%)
Outflow obstruction	0 (0%)	0 (0%)



### **Baseline information**



### **Baseline characteristics**

### **Ulcer characteristics**

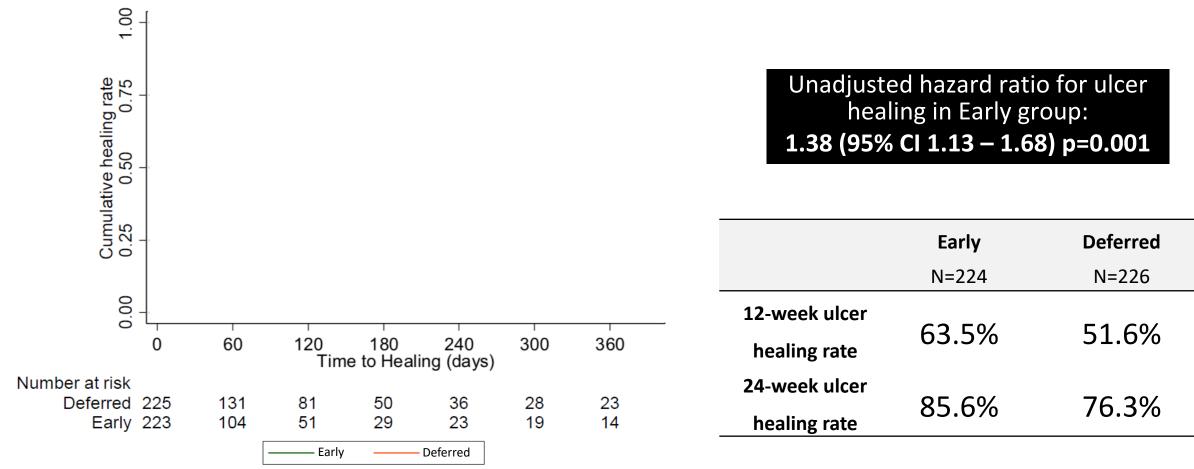
	Early	Deferred
	N=224	N=226
Ulcer chronicity (months)	3.2 (2.3-4.2)	3.0 (1.7-4.2)
Ulcer size (cm²)	2.4 (1.0-7.1)	2.9 (1.1-8.2)
Previous ulcer (yes)		
No	106 (47.3%)	108 (48.0%)
Yes	118 (52.7%)	117 (52.0%)
Baseline Compression		
None	3 (1.3%)	7 (3.1%)
КТwo	32 (14.3%)	29 (12.8%)
Three-layer bandage	42 (18.8%)	41 (18.1%)
Four-layer bandage	59 (26.3%)	59 (26.1%)
European short stretch	43 (19.2%)	36 (15.9%)
Stocking	42 (18.8%)	53 (23.5%)
Other	2 (0.9%)	1 (0.4%)
Missing	1 (0.4%)	0 (0%)

# No significant differences between groups



### Ulcer healing





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### Ulcer healing

Subgroup	No. of Pts	Hazard Ratio (9	95%)
Treatment Type			
Deferred Arm	225	Reference 🔳	
Early Arm-No treatment	6	0.95 (0.38-2.41)	
Early Arm-Endothermal alone	70	1.61 (1.18-2.20)	<b>—</b>
Early Arm-Foam alone	111	1.34 (1.04-1.73)	-
Early Arm-Other	36	1.43 (0.99-2.06)	
Total			
	448	1.42 (1.16-1.73)	-
		0.0 1.0	2.0 3.0
		Deferred Better	Early Better

Subgroup	No. of Pts	Haza	rd Ratio (95%)
ВМІ			
Underweight	63	1.04 (0.56-1.93)	-
Normal	49	2.07 (0.85-5.06)	<u>↓</u>
Overweight	144	1.52 (1.06-2.18)	<b></b>
Obesity	179	1.39 (1.00-1.94)	<b>⊢</b> .
Age			
<50 yrs	54	2.22 (1.06-4.67)	<b>↓−</b> →
50-70 yrs	165	1.49 (1.04-2.14)	<b></b>
>70yrs	229	1.28 (0.97-1.70)	<b></b>
Gender			
Male	245	1.37 (1.03-1.83)	_ <b>_</b>
Female	203	1.40 (1.04-1.88)	_ <b>.</b>
Smoke		. ,	
Never	219	1.53 (1.14-2.05)	<b>_</b> ∎
Current	42	2.67 (1.15-6.22)	
Former	187	1.23 (0.89-1.70)	<b>∔</b> ∎∔_
JIcer Size		. ,	
1st Quartile	112	1.53 (1.02-2.30)	
2nd Quartile	112	1.24 (0.82-1.88)	
3rd Quartile	112	2.66 (1.69-4.19)	
4th Quartile	112	0.99 (0.62-1.56)	·
JIcer Chronicity		(	
1st Quartile	113	0.87 (0.56-1.35)	
2nd Quartile	114	1.35 (0.90-2.03)	
3rd Quartile	110	1.79 (1.16-2.77)	
4th Quartile	111	2.19 (1.43-3.36)	
VT			
No	418	1.52 (1.24-1.88)	
Yes	30	0.58 (0.18-1.86)	
heumatoid Arthritis	50	2.30 (0.10 1.00)	
No	414	1.38 (1.12-1.71)	
Yes	34	1.73 (0.69-4.33)	
nti-platelet Therapy			
No	100	1.29 (0.81-2.05)	<b>_</b>
Yes	348	1.49 (1.18-1.88)	
Previous Ulcer	2.0		
No	214	1.55 (1.15-2.10)	<b></b>
Yes	233	1.41 (1.06-1.87)	
Q5D			
1st Quartile	112	1.50 (0.94-2.40)	
2nd Quartile	112	1.75 (1.15-2.66)	
3rd Quartile	121	1.24 (0.83-1.86)	
4th Quartile	99	1.86 (1.17-2.93)	
Total		1.00 (1.17-2.93)	
, otur	448	1.42 (1.16-1.73)	
	440	1.42 (1.10-1.73)	
			0.0 1.0 2.0 3



Deferred Better Early Better



### Ulcer free time



	Early	Deferred
	N=224	N=226
No. patients with ulcer healed at 1 year	210 (93.8%)	194 (85.8%)
No. patients with recurrent ulcer	24 (11.4%)	32 (16.5%)
Ulcer free time (days)	306 (240-328) [n=204]	278 (175-324) [n=203]

Hazard ratio for ulcer free time in Early group:

1.54 (95% Cl 1.07 – 2.21) p=0.02

### **Timing of interventions**

	Early	Deferred
	N=224	N=226
No treatment	6 (2 7%)	55 (24.3%)
Within 2-weeks	203 (90.6%)	1 (0.4%)
Before ulcer healing	200	1
After ulcer healing	3	0
Between 2-week and 4-week	9 (4.0%)	1 (0.4%)
Before ulcer healing	9	1
After ulcer healing	0	0
Between 4-week and 6-month	6 (2.7%)	103 (45.6%)
Before ulcer healing	4	4
After ulcer healing	2	99
After 6-month	0 (0%)	66 (29.2%)
Before ulcer healing	0	19
After ulcer healing	0	47



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No treatment	6 (2.7%)	55 (24.3%)
Within 2-weeks	203 (90.6%)	1 (0.4%)
Before ulcer healing	200	1
After ulcer healing	3	0
Between 2-week and 4-week	9 (4.0%)	1 (0.4%)
Before ulcer healing	9	1
After ulcer healing	0	0
Between 4-week and 6-month	6 (2.7%)	103 (45.6%)
Before ulcer healing	4	4
After ulcer healing	2	99
After 6-month	0 (0%)	66 (29.2%)
Before ulcer healing	0	19
After ulcer healing	0	47

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## ERA

### **Procedural complications**

	Early	Deferred
	N=28	N=24
Allergic reaction requiring local or	F	2
no treatment	5	3
Bleeding requiring intervention	2	1
Cough / chest tightness	0	1
Deep vein thrombosis (DVT)	9	3
Infection	3	5
Edema	1	0
Pain	6	6
Patient reported paresthesia	1	1
Superficial thrombophlebitis	1	4

#### **AVVQ**

	Baseline	6 weeks	6 months	12 months
Deferred	44.3 (8.7) [n=192]	41.2 (9.3) [n=170]	39.5 (10.3) [n=140]	34.3 (10.4) [n=130]
Early	44.1 (9.0) [n=200]	39.4 (10.2) [n=176]	34.6 (9.4) [n=139]	32.4 (8.3) [n=127]
Difference	-0.2 (-2.0, 1.6) p=0.84	-2.1 (-4.0, -0.2) p=0.03	-4.8 (-6.9 <i>,</i> -2.7) p<0.01	-1.8 (-4.0, 0.3) p=0.10



	Baseline	6 weeks	6 months	12 months
Deferred	0.73 (0.2) [n=226]	0.75 (0.2) [n=208]	0.76 (0.2) [n=192]	0.80 (0.2) [n=182]
Early	0.73 (0.2) [n=222]	0.79 (0.2) [n=211]	0.81 (0.2) [n=186]	0.83 (0.2) [n=184]
Difference	-0.01 (-0.04, 0.03) p=0.76	0.04 (0.00, 0.08) p=0.04	0.04 (0.00, 0.08) p=0.03	0.03 (-0.01, 0.07) p=0.19

### SF-36 Body Pain

	Baseline	6 weeks	6 months	12 months
Deferred	41.6 (11.9) [n=224]	44.3 (12.3) [n=207]	45.9 (12.2) [n=193]	47.8 (11.2) [n=180]
Early	41.3 (11.1) [n=223]	46.6 (10.6) [n=212]	48.2 (11.0) [n=187]	49.3 (11.0) [n=182]
Difference <sup>+</sup>	-0.5 (-2.6, 1.6) p=0.67	2.2 ( 0.1, 4.4) p=0.04	2.1 (-0.2, 4.3) p=0.07	1.1 (-1.1, 3.3) p=0.34

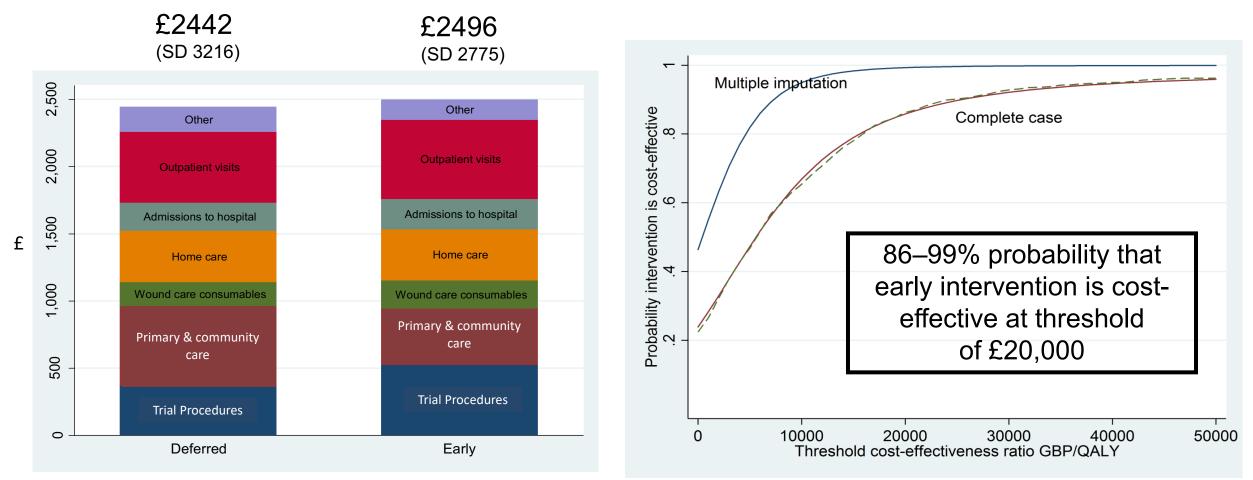




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#### ORIGINAL ARTICLE

#### A Randomized Trial of Early Endovenous Ablation in Venous Ulceration

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EVRA is the first large randomised trial to confirm that <u>early</u> endovenous ablation accelerates ulcer healing

Early endovenous ablation also associated with greater ulcer free time and is cost effective



Imperial College London