

ADVANCES IN VTE TREATMENT

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Two-stage Treatment of VTE

Heparin

Vitamin K Antagonist

Evolution of VTE Treatment

Evolution of heparin

Evolution of VTE treatment in cancer patients

Evolution of new anticoagulants

Initial VTE Treatment

Evolution of heparin

Evolution of Heparin



Heparin



LMWH



Fondaparinux

Advantages of Lower Molecular Weight Heparins

Once-daily subcutaneous administration

No need for routine monitoring

Low risk of HIT

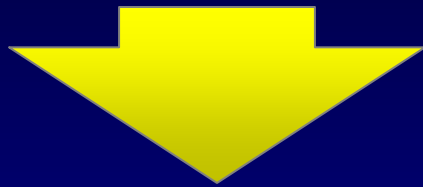
Treatment of VTE

**With LMWH, we now treat over 80%
of VTE patients at home**

Extended VTE Treatment

**Evolution of VTE treatment in
cancer patients**

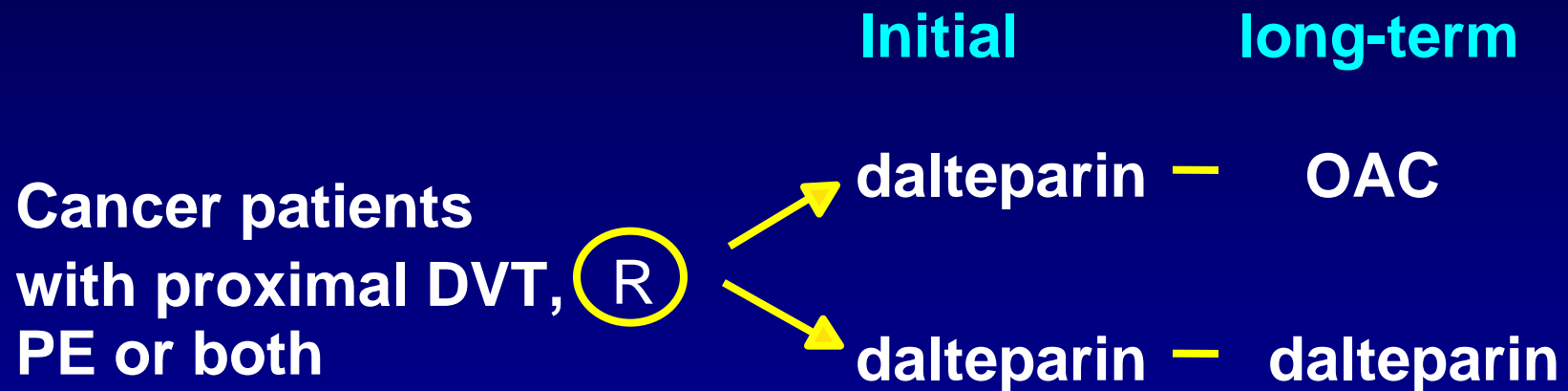
Warfarin in cancer patients



- **21% recurrent VTE**
- **12% major bleeding**
- **need for coagulation monitoring**

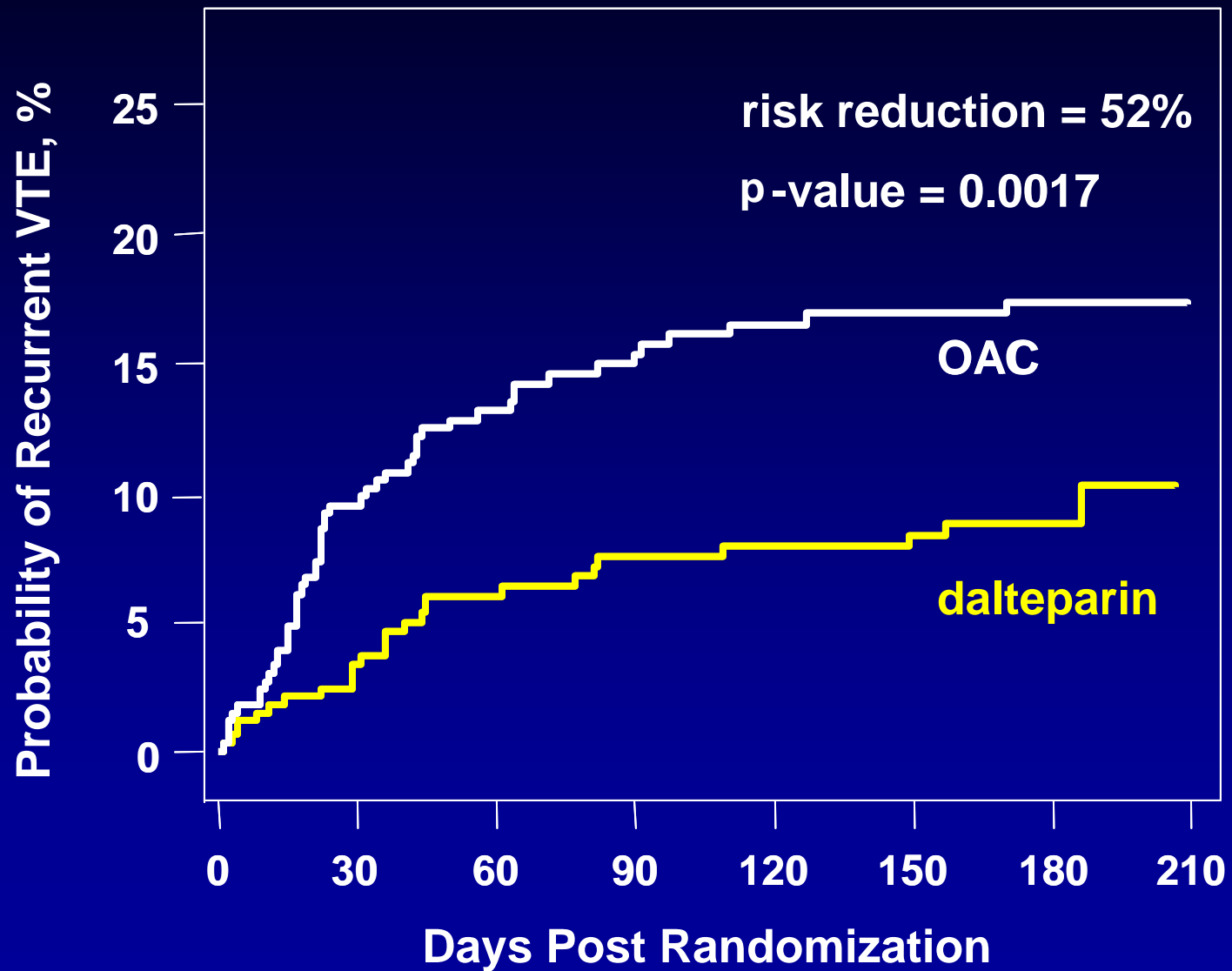
CLOT in Cancer Trial

- multicentre, open-label, randomized study



Lee *N Engl J Med*, 2003

CLOT Trial: Recurrent VTE



CLOT Trial: Bleeding Events

	LMWH N=338	OAC N=335	P-value*
Major bleed	19 (5.6%)	12 (3.6%)	0.27
Any bleed	46 (13.6%)	62 (18.5%)	0.093

* Fisher's exact test

Extended LMWH for VTE Treatment in Cancer Patients

LMWH prevents recurrent VTE more effectively than warfarin without increased bleeding

LMWH is easier to administer

Most cancer patients prefer LMWH

Future of VTE Treatment

Evolution of new anticoagulants

New Oral Anticoagulants

Factor Xa inhibitors

Thrombin inhibitors

Comparison of the Features of Rivaroxaban and Apixaban

Features	Rivaroxaban	Apixaban
Molecular weight	436	460
Bioavailability (%)	>60	>60
Time to peak drug level (h)	3	3
Half-life (h)	9	9-14
Renal excretion (%)	65	25

Main Efficacy Outcomes of the RECORD Trials

Trial	Setting	Enoxaparin regimen	Rivaroxaban regimen	DVT/PE/Death (%)	RRR (%)	Symptomatic VTE (%)	RRR (%)
RECORD1 n=4541	THR	40 mg od, 35 d	10 mg, 35 d	3.7 vs 1.1	70	—	—
RECORD2 n=2509	THR	40 mg od, 10–14 d	10 mg, 31–39 d	9.3 vs 2.0	79	1.2 vs 0.2	80
RECORD3 n=2531	TKR	40 mg od, 10–14 d	10 mg, 10–14 d	18.9 vs 9.6	49	2.0 vs 0.7	66
RECORD4 n=3148	TKR	30 mg bid, 10–14 d	10 mg, 10–14 d	10.1 vs 6.9	31	1.2 vs 0.7	NS

Eikelboom JS and Weitz JI. *Lancet* 2008.

Conclusions

LMWH has moved initial VTE treatment from the inpatient to the outpatient setting

Extended dalteparin therapy has simplified VTE treatment in cancer patients

New oral anticoagulants are likely to further streamline VTE treatment