UMC Utrecht

Chronic Q fever-related complications and mortality: data from a nationwide cohort

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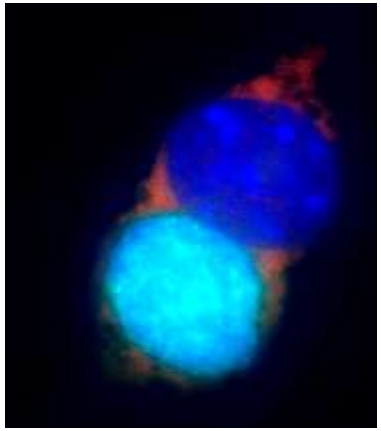
University Medical Center Utrecht

Introduction



Intracellular pathogen

Zoönosis ~ aerogenic transmission

Primary infection relatively mild

Introduction

Chronic infection

High mortality

What factors predict poor outcome?

* PET-CT image courtesey of: Barten DG, Delsing CE, Keijmel SP. Localizing chronic Q fever: a challenging query. BMC infectious diseases, 2013, DOI: 10.1186/1471-2334-13-413

Aim of the study

To assess incidence of complications

To assess nature of complications

To explore which factors are associated with complications

To explore which factors are associated with mortality

» Provide guidance for daily clinical practice to identify those at risk

Methods

Observational, retrospective cohort study: national Dutch chronic Q fever database

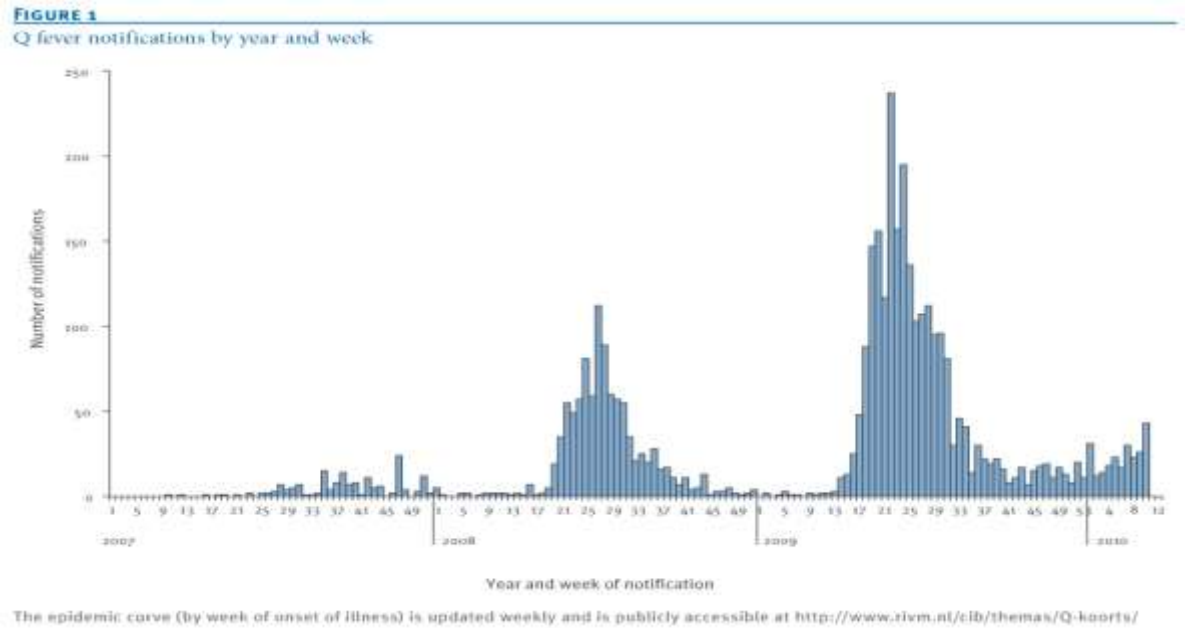
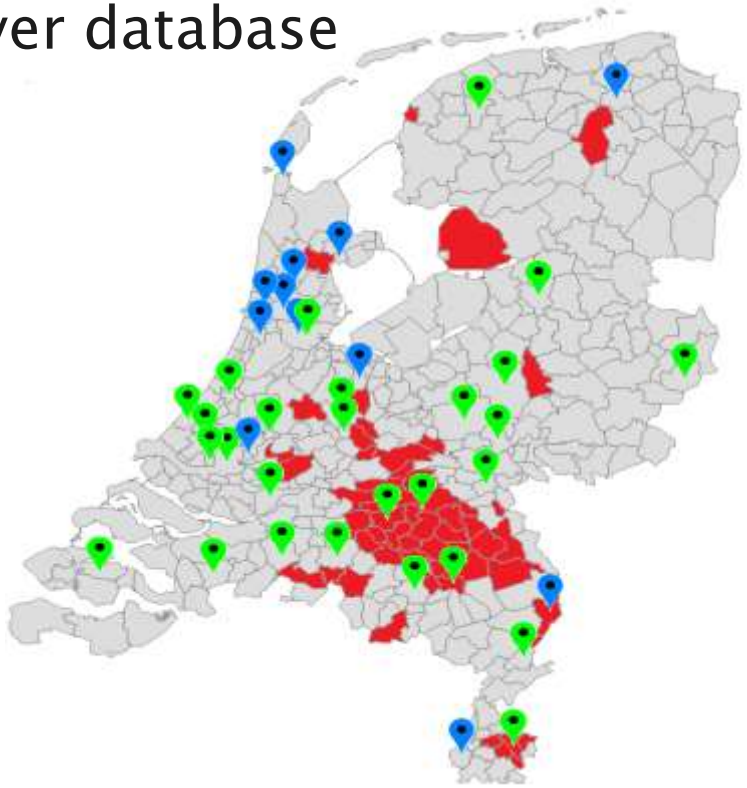


Image courtesy of van der Hoek W, Dijkstra F, Schimmer B et al. Q fever in the Netherlands: an update on the epidemiology and control meausures. Eurosurveillance 2010;15(12).

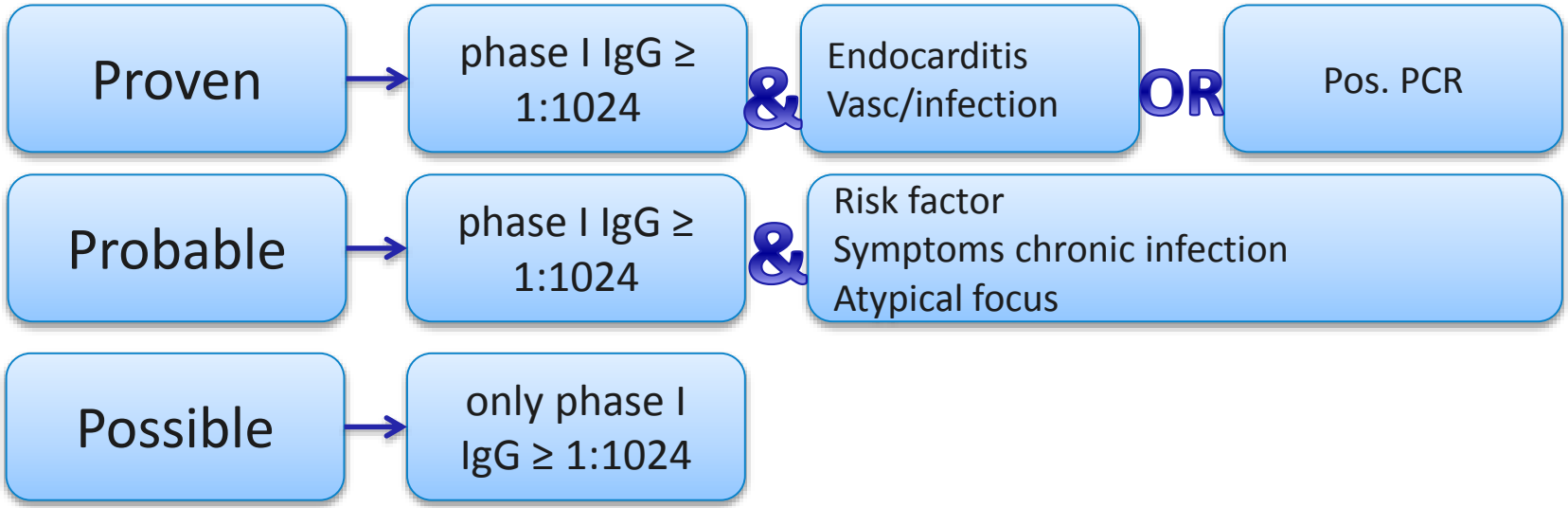
Methods

Observational, retrospective cohort study: national Dutch chronic Q fever database



Methods

Diagnostic criteria: Dutch chronic Q fever consensus group criteria



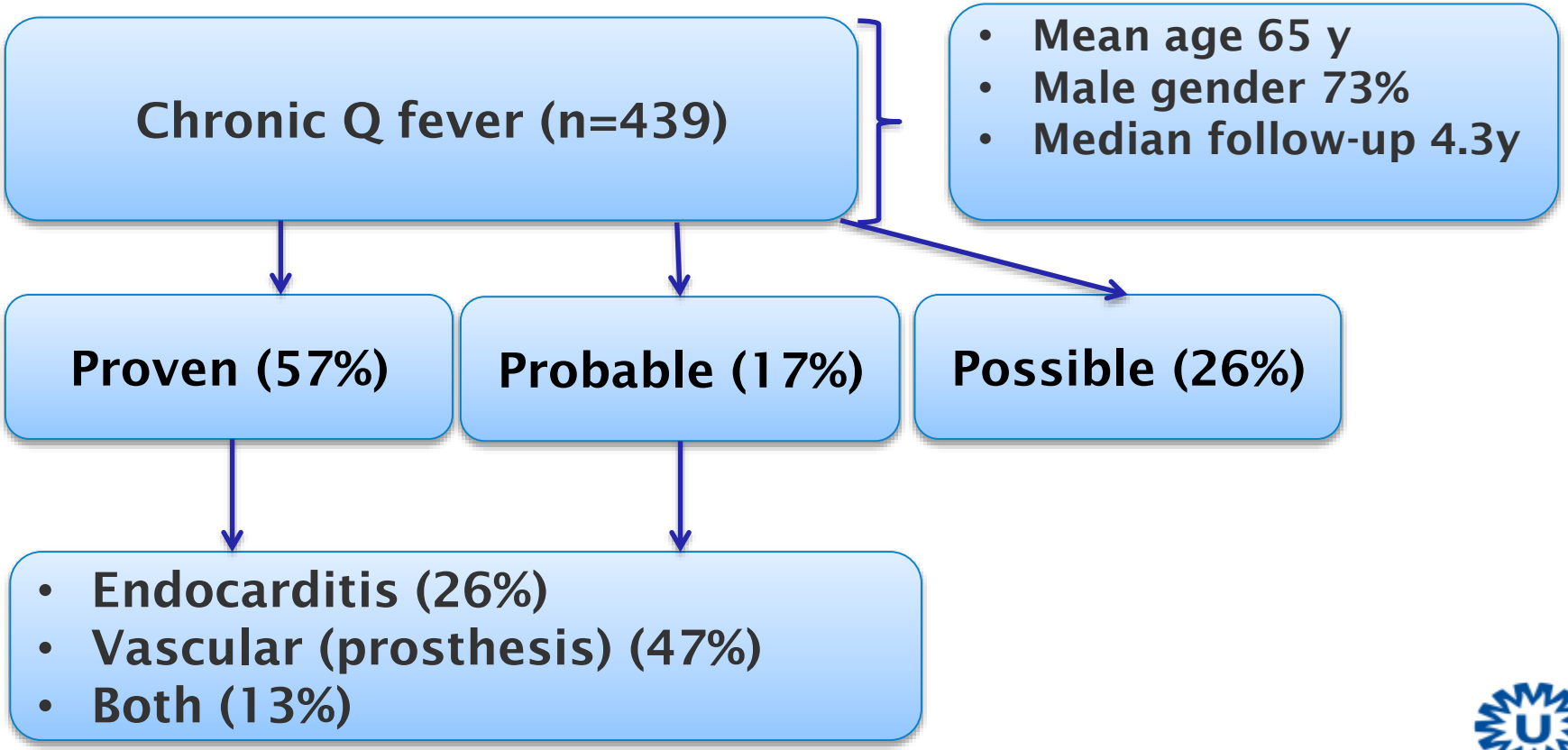
Courtesy of: Kampschreur LM et al. Chronic Q fever in the Netherlands 5 year after the start of the Q fever epidemic: results from the Dutch chronic Q fever database. J Clin Microbiol 2014;52(5):1637-43.

Methods

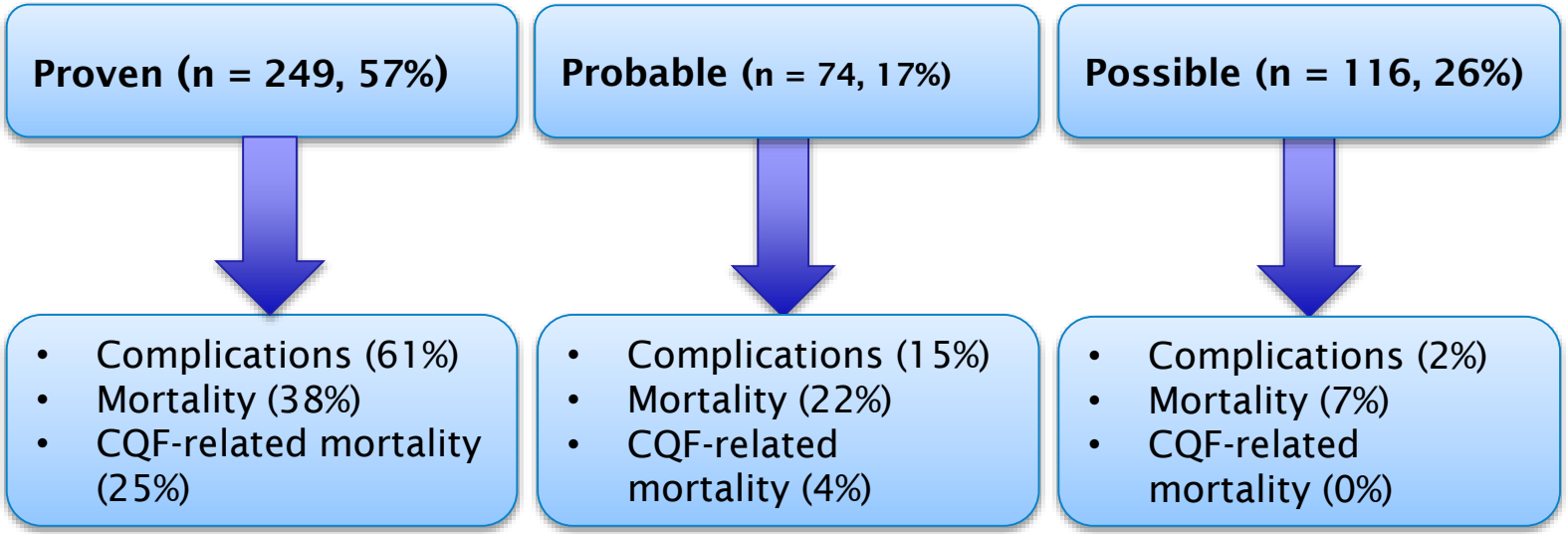
Predefined criteria for complications & mortality: assessment by multiple investigators

Binary logistic regression model, stepwise modeling (backward)

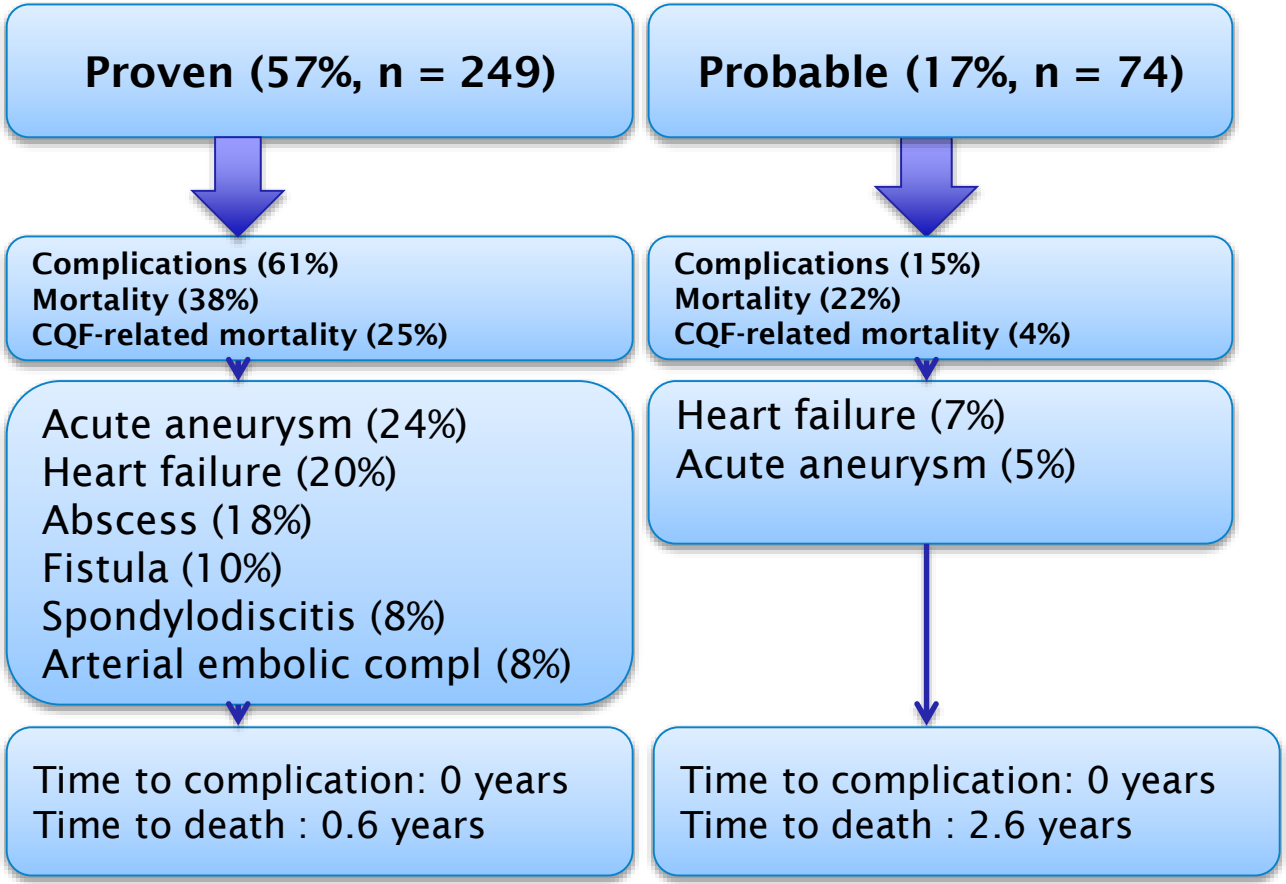
Results


Chronic Q fever (n=439)
• Mean age 65 y
• Male gender 73%
• Median follow-up 4.3y
Proven (57%)
Probable (17%)
Possible (26%)
• Endocarditis (26%)
• Vascular (prosthesis) (47%)
• Both (13%)

Results


Proven (n = 249, 57%)
Probable (n = 74, 17%)
Possible (n = 116, 26%)
• Complications (61%)
• Mortality (38%)
• CQF-related mortality (25%)
• Complications (15%)
• Mortality (22%)
• CQF-related mortality (4%)
• Complications (2%)
• Mortality (7%)
• CQF-related mortality (0%)

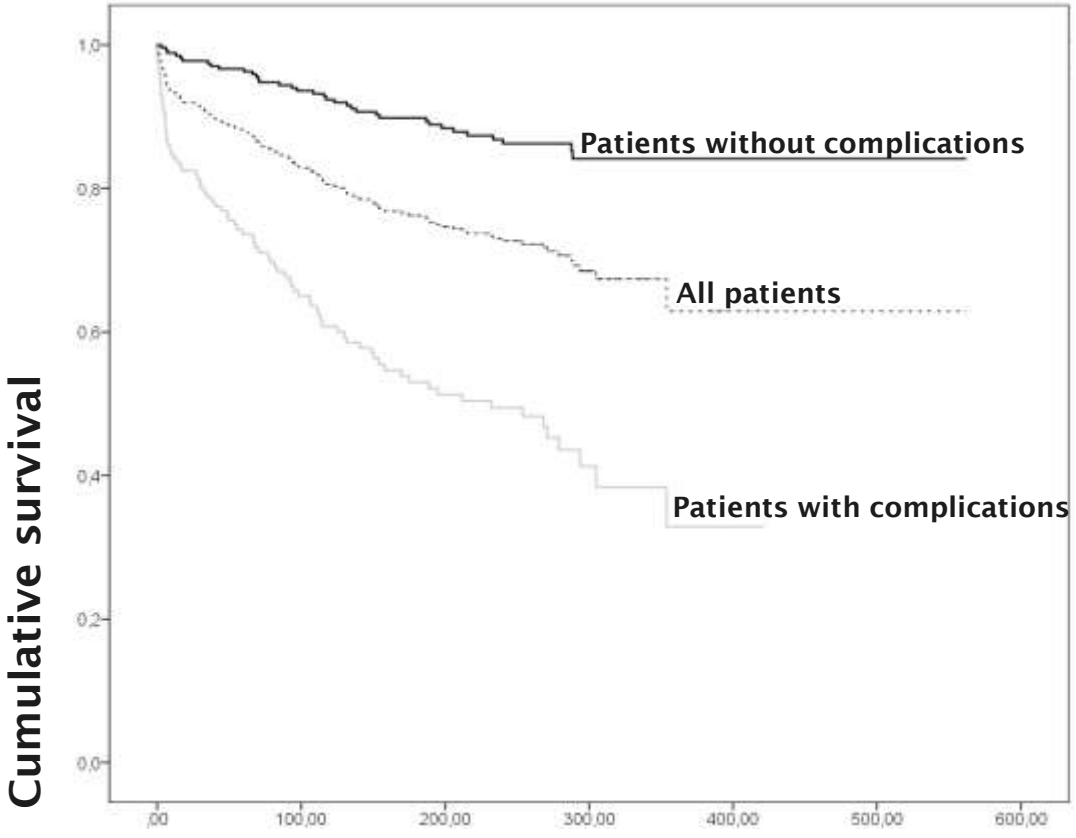
Results


Proven (57%, n = 249)
Probable (17%, n = 74)
Complications (61%)
Mortality (38%)
CQF-related mortality (25%)
Complications (15%)
Mortality (22%)
CQF-related mortality (4%)
Acute aneurysm (24%)
Heart failure (20%)
Abscess (18%)
Fistula (10%)
Spondylodiscitis (8%)
Arterial embolic compl (8%)
Heart failure (7%)
Acute aneurysm (5%)
Time to complication: 0 years
Time to death : 0.6 years
Time to complication: 0 years
Time to death : 2.6 years

Results

	Complications (OR,95%CI)	Q fever related-mortality (OR,95%CI)
Age (mean)	1.04 (1.02-1.06)	1.03 (1.00-1.06)
Presence of prosthetic material	1.79 (1.07-2.99)	ns
No identified focus of infection	0.04 (0.01-0.34)	ns
Positive serum PCR	2.25 (1.36-3.72)	ns
Four-fold titer decrease	ns	0.27 (0.12-0.58)
Complications	NA	8.20 (3.65-18.45)

Results


Cumulative survival
1,0
0,8
0,6
0,4
0,2
0,0
,00
100,00
200,00
300,00
400,00
500,00
600,00
Patients without complications
All patients
Patients with complications
Follow-up duration in weeks

Summary

High complication & mortality rate → overall five-year survival rate for ‘proven/probable’ patients comparable to colorectal cancer (USA)

Complications predict mortality

Favourable prognosis for ‘possible’ patients

Effect of treatment? Poster session 12:30 (P099)!

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All participating hospitals

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