Marital status associated with ovarian cancer stage, treatment and outcomes?

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Introduction

Ovarian cancer is the 4th most common cancer in women in Ireland. Marriage is associated with societal factors which could lead to earlier diagnosis, better treatment utilisation and improved quality of follow-up for patients. We investigated associations between marital status and stage, treatment receipt and survival in ovarian cancer.

Methods

Women aged ≥20, diagnosed with primary malignant ovarian cancer (IDC10-C56) from1994-2010 were identified from National Cancer Registry Ireland. Marital status, age, smoking status, occupation and local area deprivation were extracted along with stage, grade, histology, treatment received and date of death.

Logistic regression was used to estimate effect of marital status on tumour stage (1-3 vs 4). Effect on treatment uptake was evaluated adjusting for socio-demographic characteristics, stage and grade. Survival was evaluated using Cox regression, at baseline and beyond a 6-month landmark (adjusting for treatment).

STAGE

TREATMENT

SURVIVAL

Results

The median age of 5022 included women was 64 (range 23-97, IQR 21); 30% had stage 4 disease. Married women were younger, more likely to be a housewife and lived in less deprived areas.

		Married	Not married
Age	≤29	19 (1%)	80 (3%)
	30-49	535 (20%)	279 (12%)
	50-69	1555 (59%)	785 (33%)
	≥70	512 (20%)	1255 (52%)
Smoker*	Yes	448 (17%)	428 (18%)
	No	2173 (83%)	1971 (82%)
Occupation*	Housewife	1459 (56%)	622 (26%)
	Other	1162 (45%)	1777 (74%)
Deprivation*	Affluent	2061 (79%)	1968 (81%)
	Deprived	1152 (44%)	1264 (52%)
Stage	1-3	1524 (58%)	1313 (55%)
	4	853 (33%)	710 (30%)
	Unknown	244 (9%)	376 (16%)

* Excluding unknown

Marriage was not associated with advanced stage disease at diagnosis after adjusting for patient and tumour related covariates.

	Marriage adjusted for	OR	95% CI		P-value
Stage 4	Nothing	0.88	0.77	0.99	<0.001
	Patient related	1.09	0.95	1.24	0.23
	Patient + Tumour	1.11	0.97	1.28	0.13

62% of women received cancer-directed surgery. Married women were more likely to have surgery, even after adjusting for covariates.

	Marriage adjusted for	OR	95% CI		P-value
Surgery	Nothing	2.31	2.06	2.60	<0.001
	Patient related	1.56	1.37	1.77	<0.001
	Patient + Tumour	1.48	1.27	1.71	<0.001

Married women survived longer (median: 31m vs 15m) but this effect was attenuated when conditional survival beyond 6-months was considered (adjusted for treatment received).

Overall Survival

HR = 0.88, 95%CI (0.81,0.95)

Married

Not married

| N | 2399 | 1286 | 902 | 698 | 547 | 455 |
| M | 2621 | 1898 | 1349 | 1023 | 846 | 704 |

Years from diagnosis

Proportion alive

Overall Survival (survived 6m)

HR = 0.94, 95%CI (0.85,1.04)

Married

Not married

| N | 1542 | 1082 | 789 | 611 | 503 |
| M | 2160 | 1605 | 1184 | 927 | 769 |

Years from diagnosis

Proportion alive

Conclusion

Marriage is not associated with stage at diagnosis of ovarian cancer but increases the odds of having treatment. Associations between marital status and survival are restricted to the initial survival period.
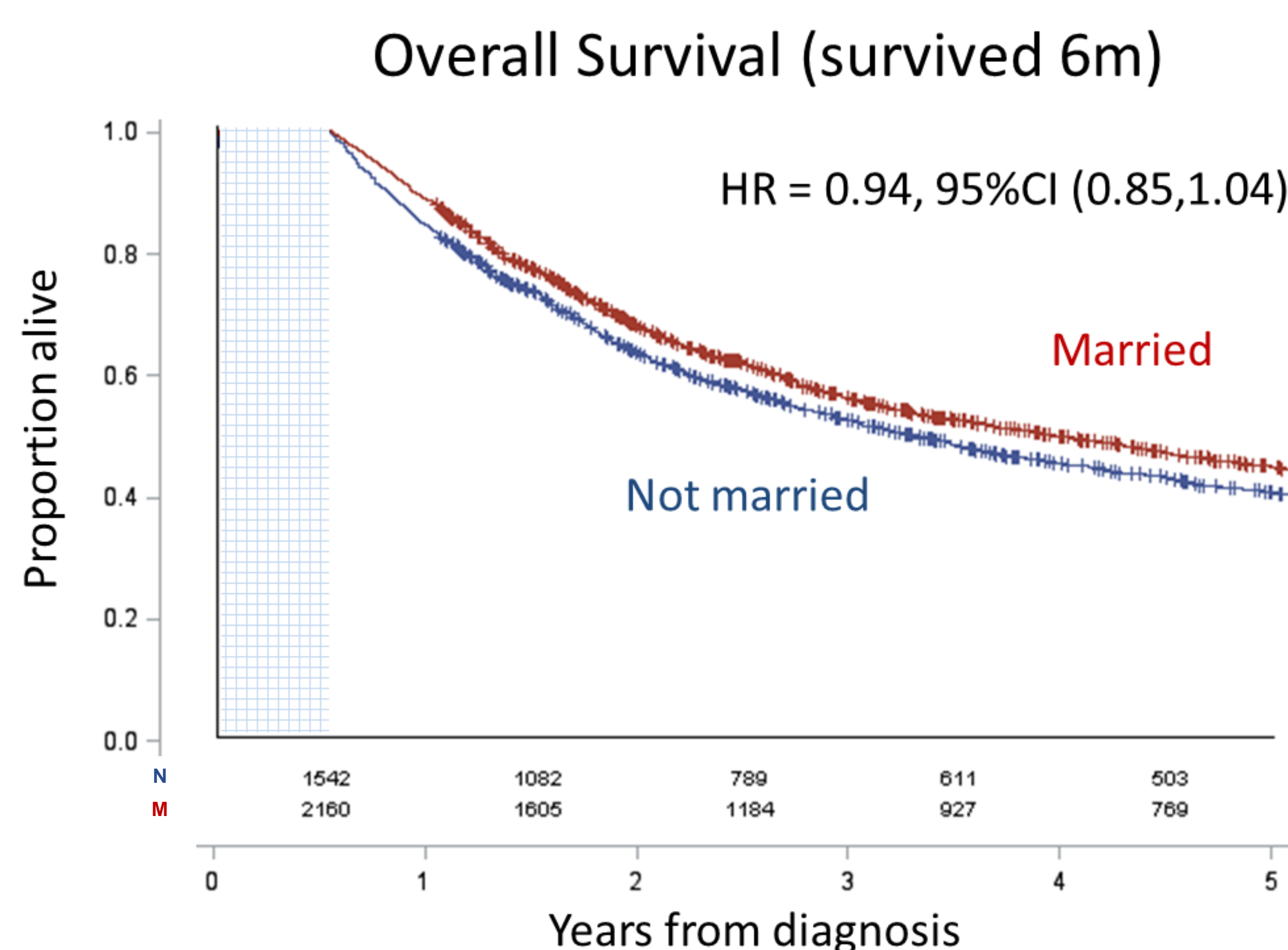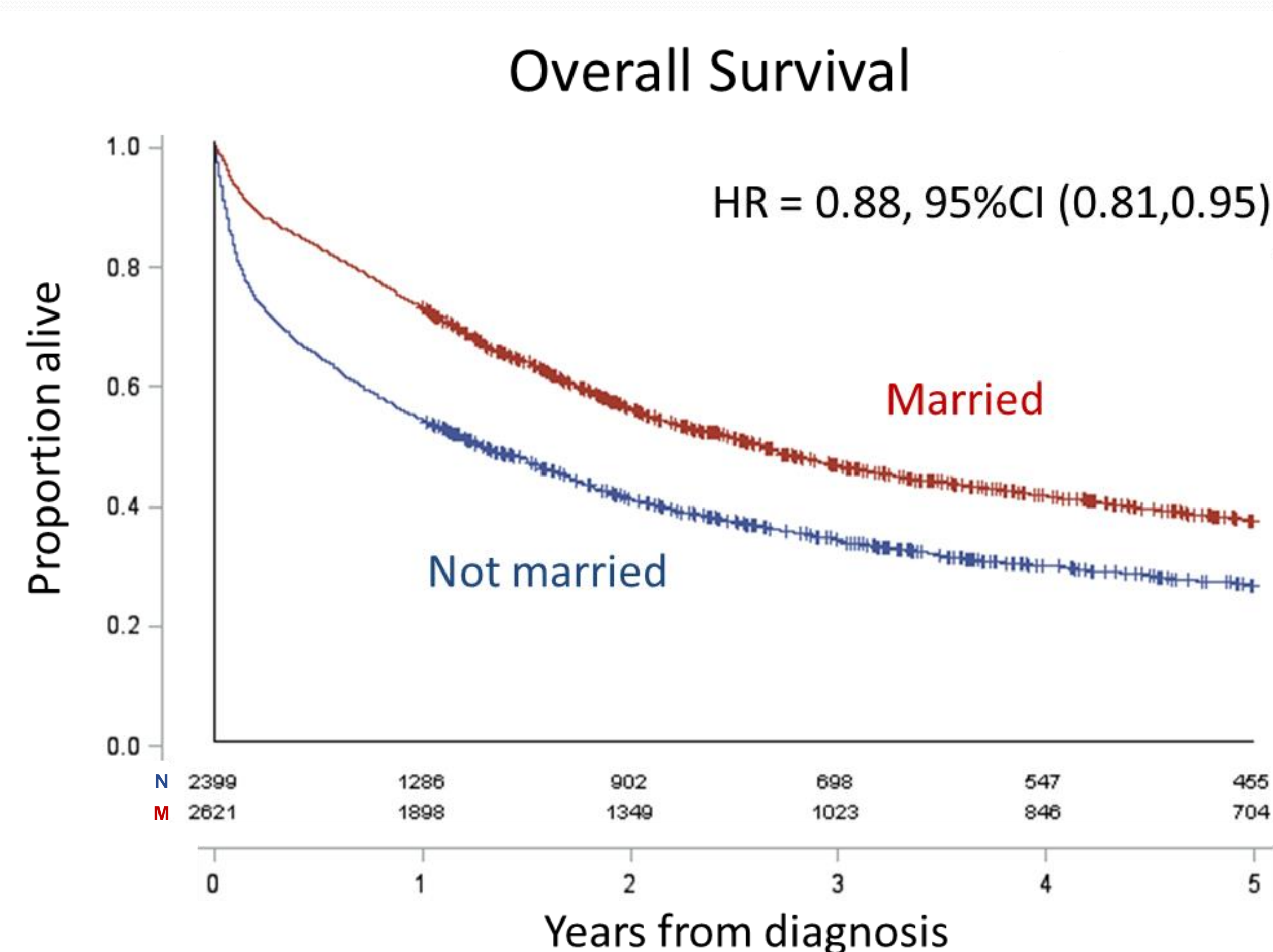
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