

The survival benefit of RARP in comparison with RT manifested in elderly men ; A national wide observational study

Young Hwii Ko / Yeungnam University, Department of Urology, Daegu, Korea

Background

- Contemporary representative guidelines recommend RP for patients with a **life expectancy** over 10 years with low-intermediate risk disease or a life expectancy of 5 years with high-risk disease.
- In 2017, the average life span of a Korean man was **79.7 years**. Thus, as an attempt to investigate the benefit of different local treatments in men older than 70 or 75 years with non-metastatic disease, we analyzed nationwide data from the Korean medical insurance system.
- Given a 'traditional' shift to RT for the patients over **75 years**, the primary endpoint of this study was the survival rate after RARP in comparison with RT who could afford to undergo surgery in this particular age group.

Materials & Methods

- From 2006-2016, 139,682 men newly diagnosed and registered as a Pca in Korean Medical Insurance system was enrolled.
- Inclusion criteria : **RARP (+RT/+RT&ADT)** or **RT (+ADT)**
- Exclusion criteria : Younger than 70 yrs CT (first line) , Open /laparoscopic RP
- Primary end point : **OS** (overall survival), not PSA

Results

Table 1. Basic characteristics between RARP and RT group

N	Total patients (RT vs. RARP)			RT only vs. RARP only			RT + ADT vs. RARP + RT		
	RT (n=6,417)	RARP (n=7,535)	P	RT (n=2,734)	RARP (n=7,090)	P	RT (n=3,683)	RARP (n=445)	P
Year			<.0001			<.0001			<.0001
2006	290 (4.52)	197 (2.61)		131 (4.79)	185 (2.61)		159 (4.32)	12 (2.7)	
2007	309 (4.82)	247 (3.28)		131 (4.79)	235 (3.31)		178 (4.83)	12 (2.7)	
2008	308 (4.8)	441 (5.85)		138 (5.05)	418 (5.9)		170 (4.62)	23 (5.17)	
2009	307 (4.78)	632 (8.39)		147 (5.38)	594 (8.38)		160 (4.34)	38 (8.54)	
2010	419 (6.53)	677 (8.98)		222 (8.12)	637 (8.98)		197 (5.35)	40 (8.99)	
2011	611 (9.52)	683 (9.06)		295 (10.79)	638 (9)		316 (8.58)	45 (10.11)	
2012	676 (10.53)	692 (9.18)		272 (9.95)	654 (9.22)		404 (10.97)	38 (8.54)	
2013	750 (11.69)	832 (11.04)		301 (11.01)	790 (11.14)		449 (12.19)	42 (9.44)	
2014	845 (13.17)	868 (11.52)		347 (12.69)	821 (11.58)		498 (13.52)	47 (10.56)	
2015	830 (12.93)	1028 (13.64)		329 (12.03)	975 (13.75)		501 (13.6)	53 (11.91)	
2016	1072 (16.71)	1238 (16.43)		421 (15.4)	1143 (16.12)		651 (17.68)	95 (21.35)	
Age	75.05±3.83	73.81±3.58	<.0001	75.21±3.99	73.82±3.59	<.0001	74.93±3.7	73.64±3.44	<.0001
<75 yrs	3178 (49.52)	5057 (67.11)		1322 (48.35)	4751 (67.01)		1856 (50.39)	306 (68.76)	
≥75 yrs	3239 (50.48)	2478 (32.89)		1412 (51.65)	2339 (32.99)		1827 (49.61)	139 (31.24)	
Hypertension	3753 (58.49)	4430 (58.79)	0.7136	1614 (59.03)	4150 (58.53)	0.6512	2139 (58.08)	280 (62.92)	0.0501
Diabetes	1472 (22.94)	1633 (21.67)	0.073	656 (23.99)	1542 (21.75)	0.0167	816 (22.16)	91 (20.45)	0.4115
Dyslipidemia	1823 (28.41)	2161 (28.68)	0.7243	766 (28.02)	2040 (28.77)	0.4576	1057 (28.7)	121 (27.19)	0.5057
Low income (lower 20%)	1167 (18.19)	1188 (15.77)	0.0001	510 (18.65)	1120 (15.8)	0.0006	657 (17.84)	68 (15.28)	0.1804
Residential area (Urban area)	2667 (41.56)	3389 (44.98)	<.0001	1143 (41.81)	3213 (45.32)	0.0017	1524 (41.38)	176 (39.55)	0.4591

Age group	Comparison Group	Group	N	Event	Duration	MR (per 1000)	HR	97% CI	P-value
Total	Total (RT VS. RARP)	RT	6417	2071	23128.88	89.5417			
		RARP	7535	1809	30933.84	58.4797	0.767	0.720-0.818	<.0001
Total	RT only vs RARP only	RT	2734	1044	9580.52	108.971	1 (Ref.)		
		RARP	7090	1658	29337.33	56.515	0.624	0.577-0.675	<.0001
Total	RT + ADT vs RARP + RT	RT	3683	1027	13548.37	75.8025	1 (Ref.)		
		RARP	445	151	1596.51	94.5813	1.472	1.238-1.751	<.0001
70-74 yrs	Total (RT VS. RARP)	RT	3178	946	12542.12	75.4258	1 (Ref.)		
		RARP	5057	919	22317.28	41.1789	0.58	0.529-0.636	<.0001
70-74 yrs	RT only vs RARP only	RT	1322	479	5065.65	94.5584	1 (Ref.)		
		RARP	4751	830	21137.5	39.2667	0.446	0.398-0.499	<.0001
70-74 yrs	RT + ADT vs RARP + RT	RT	1856	467	7476.47	62.4627	1 (Ref.)		
		RARP	306	89	1179.78	75.4377	1.246	0.991-1.565	0.0596
>75 yrs	Total (RT VS. RARP)	RT	3239	1125	10586.76	106.265	1 (Ref.)		
		RARP	2478	890	8616.56	103.289	0.98	0.897-1.07	0.6498
>75 yrs	RT only vs RARP only	RT	1412	565	4514.86	125.142	1 (Ref.)		
		RARP	2339	828	8199.83	100.978	0.827	0.743-0.92	0.0005
>75 yrs	RT + ADT vs RARP + RT	RT	1827	560	6071.9	92.228	1 (Ref.)		
		RARP	139	62	416.73	148.778	1.796	1.379-2.339	<.0001

Table 2. Difference in Mortality in each group and subgroup

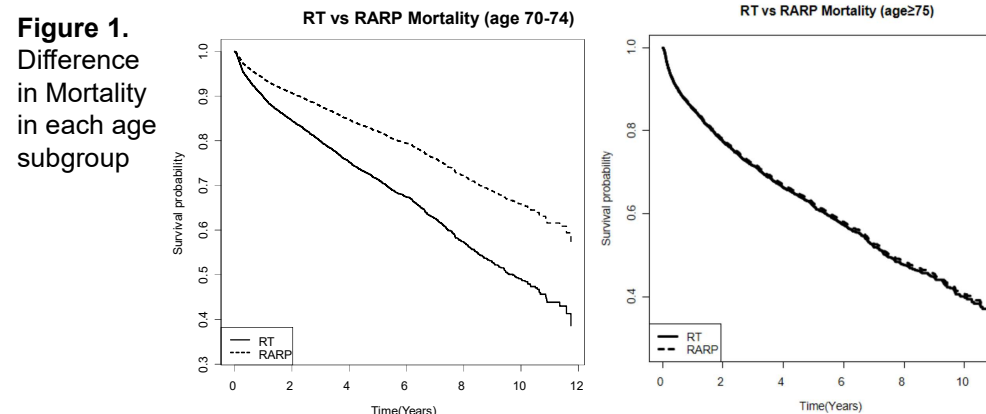


Figure 1. Difference in Mortality in each age subgroup

Conclusion

- This study demonstrates that even the patient over 75 years old who could afford to undergo robotic-assisted radical prostatectomy for non-metastatic PCa had a similar survival in comparison with RT, which had long been a standard of care for this particular age group.