

# Examination of Racial Disparities in Epithelial Ovarian Cancer Survival

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# Introduction



- Ovarian cancer is the 8<sup>th</sup> most commonly diagnosed cancer and the 5<sup>th</sup> leading cause of cancer death among US women
- From 2006 to 2010, white women had greater age-adjusted ovarian cancer incidence and mortality rates compared to black women in TN and the US
- During 2003-2009, black women experienced reduced 5-year relative and 5-year period survival compared to white women in the US

# Basic Medical Diagnostics



## Types of Ovarian Cancer

- Epithelial ovarian cancer  
⇒ 80% of all CA
- Germ cell tumors ⇒  
10-15% of all CA
- Sex cord-Stromal tumors  
⇒ 5-10% of all CA

## Symptoms

- Abdominal bloating or pressure
- Abdominal or pelvic pain
- Feeling full too quickly during meals
- Urinating more frequently (polyuria or urinary urgency)

# Primary Treatment

- ▣ Laparotomy/hysterectomy (TAH)/bilateral salpingo-oophorectomy (BSO) with comprehensive staging or unilateral salpingo-oophorectomy (USO) (clinical stage 1A or 1C, all grades with comprehensive staging if patient desires fertility) OR
- ▣ Cytoreductive surgery if clinical stage II, III, or IV OR
- ▣ Consider neoadjuvant chemotherapy (category 1)/primary interval cytoreduction (diagnosis by fine needle aspiration [FNA], biopsy, or paracentesis) for patients with bulky stage III/IV who are poor surgical candidates due to high-risk comorbidity conditions or disease factors

# Methods

- Epithelial ovarian cancers were identified in the TCR database from cases diagnosed during 2004-10 using the SEER site recode scheme with primary site code C56 and histology codes < 9590. Non-epithelial ovarian cancers bearing the following histology codes 8590-8671, 8240-45 & 9060-9102 were eliminated
- Autopsy-only and death-certificate-only cases were eliminated
- The above limitations resulted in the extraction of 2715 total eligible epithelial ovarian cancer cases: 267 in black women and 2448 in white women
- During Kaplan-Meier curve construction, 22 additional cases missing follow-up information were also eliminated

# Methods Continued

- Kaplan Meier curves were constructed using the Statistical Application Software (SAS) Lifetest Procedure
- Follow-up cutoff was limited to 12/31/2010
- A patient was considered not to have had surgery if RX Summary Surgery PSite = '00'; cases coded '99' were deleted (36 cases)
- Cases were censored if the principal cause of death was not one of the diagnoses listed in the table in the next slide
- National Death Index linkages had been done on all years through 2010

N839	non-inflammatory disorder of ovary, fallopian tube & broad lig, unspec.
D487	neoplasm of uncertain behavior of other unspec. Sites
D481	neoplasm of uncertain behavior of connective and other soft tissue
C97	malignant neoplasms of independent (primary) multiple sites
C80	malignant neoplasm w/out specification of site
C798	Secondary malignant neoplasm of other spec sites
C793	secondary malignant neoplasm of brain & cerebral meninges
C786	secondary malignant neoplasm of retroperitoneum & peritoneum
C780	secondary malignant neoplasm of lung
C763	malignant neoplasm of other and ill-defined sites, pelvis
C762	malignant neoplasm of other and ill-defined sites, abdomen
C579	malignant neoplasm of other & unspec female genital organs, NOS
C577	malignant neoplasm of other & unspec female genital organs, NOS
C570	malig neoplasm of other & unspec female genital organs, fallopian tube
C569	malignant neoplasm of ovary
C56	malignant neoplasm of ovary
C55	malignant neoplasm of uterus
C541	malignant neoplasm of endometrium
C539	malignant neoplasm of cervix uteri
C482	malignant neoplasm of peritoneum

# Results



☞ Stage at diagnosis was as follows for black and white women, respectively:

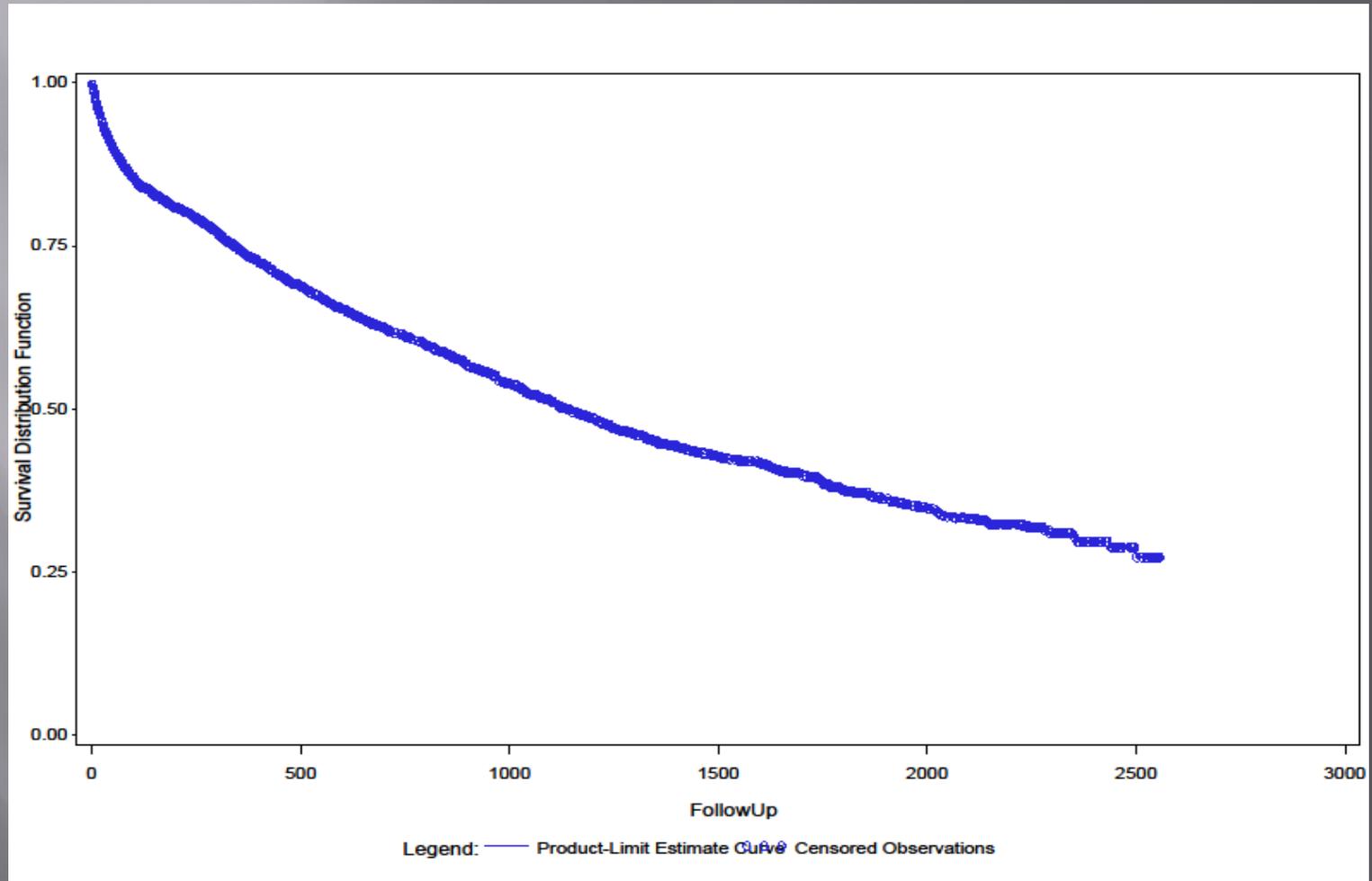
1. 13.9%; 20.1%
2. 6.4%; 8.2%
3. 30.0%; 30.0%
4. 33.7%; 27.6%
5. Unknown Stage/Other: 16.1%; 14.3%

# Results Continued

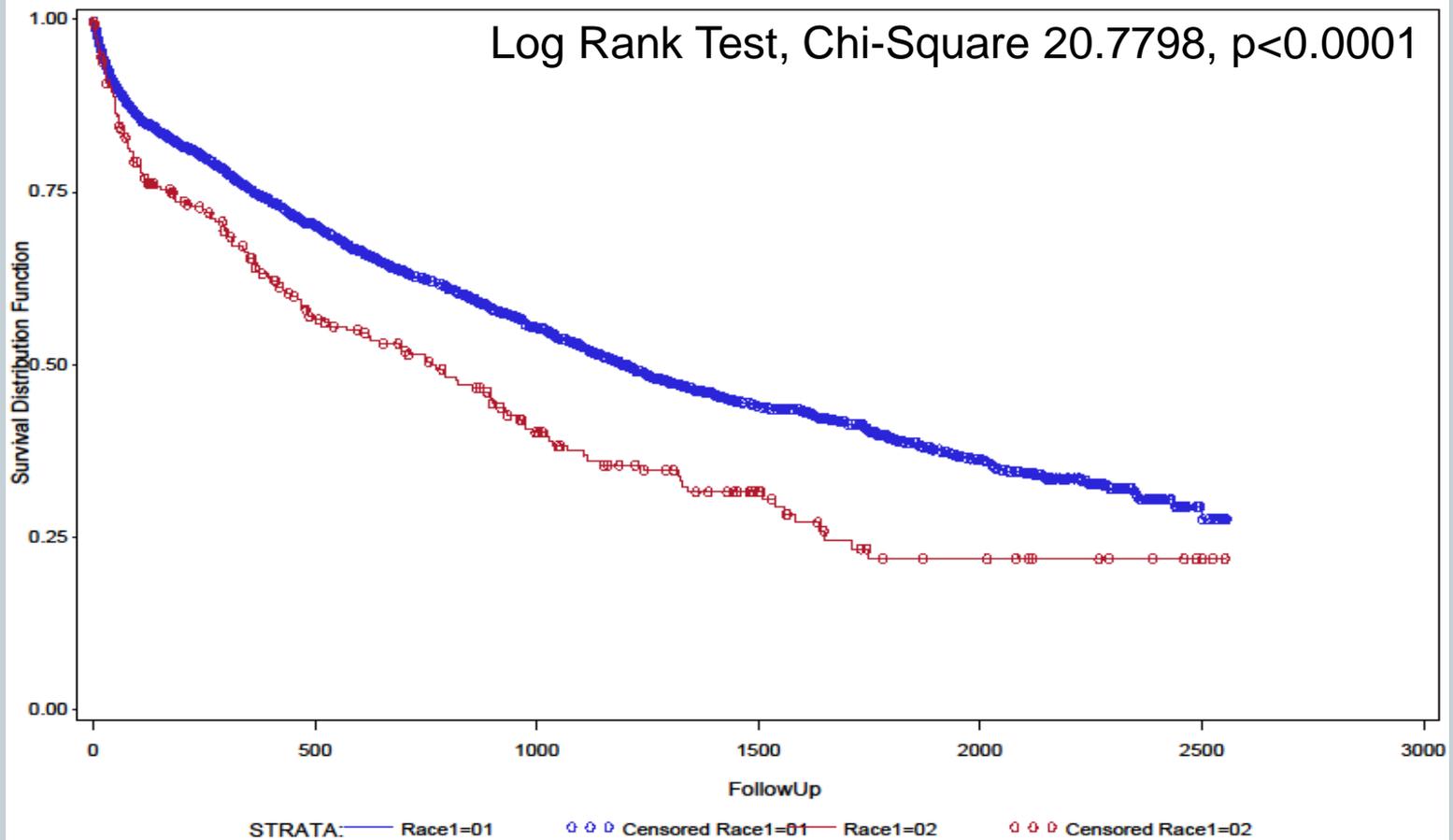


- Black mean age  $\pm$  SE =  $62.0 \pm 0.9$ ; Whites =  $63.5 \pm 0.3$ ;  $p=0.11$
- Median overall survival time in black and white women, respectively, was 427 and 570 days
- Mean overall survival time  $\pm$  Standard Error for black and white women, respectively, was  $640 \pm 38$  and  $760 \pm 14$  days
- Surgical therapy was performed in 75% of white women, but only 65.5% of black women

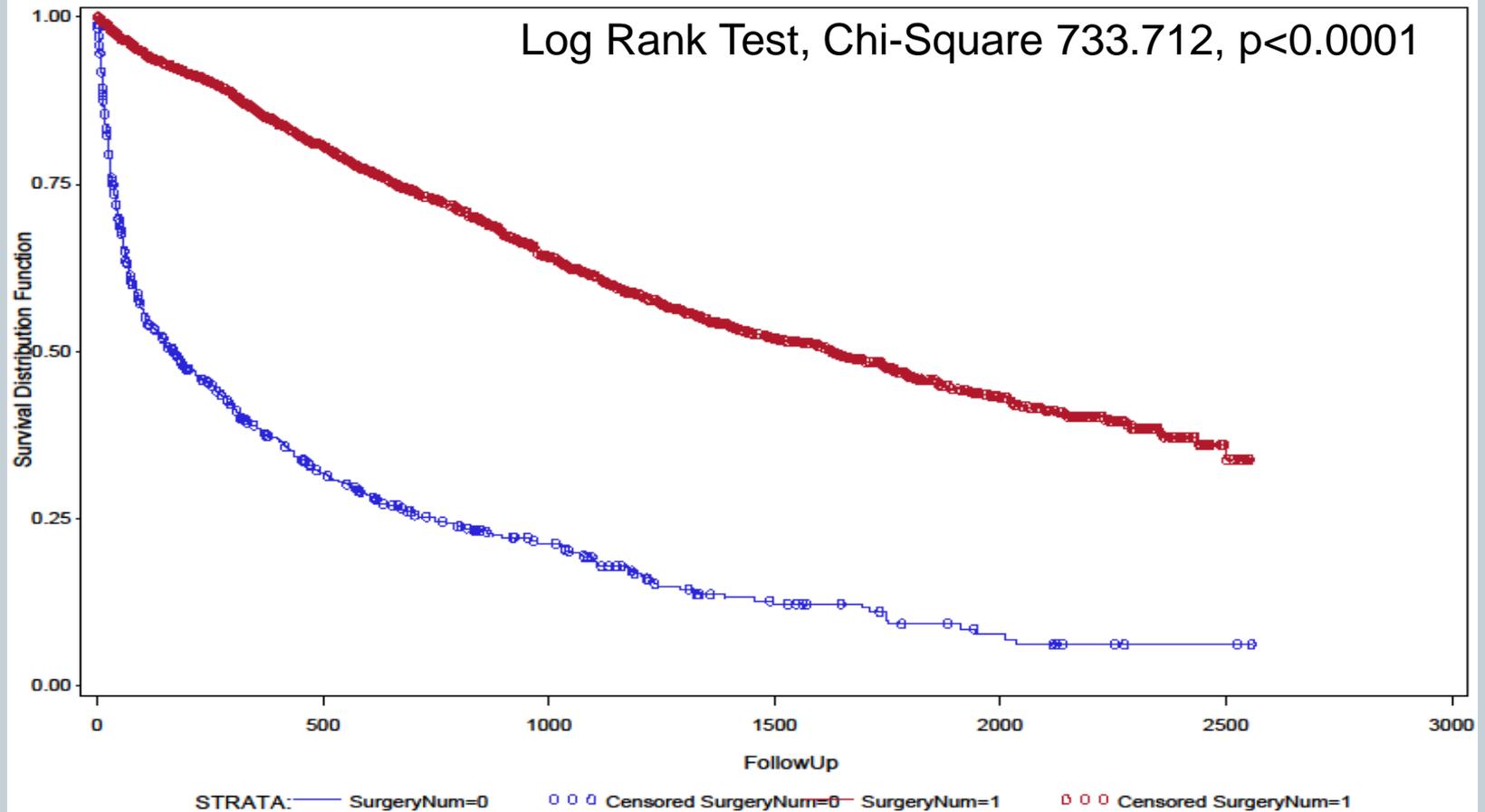
# Overall Kaplan-Meier Survival, Entire Cohort



# Kaplan-Meier Survival Stratified by Race



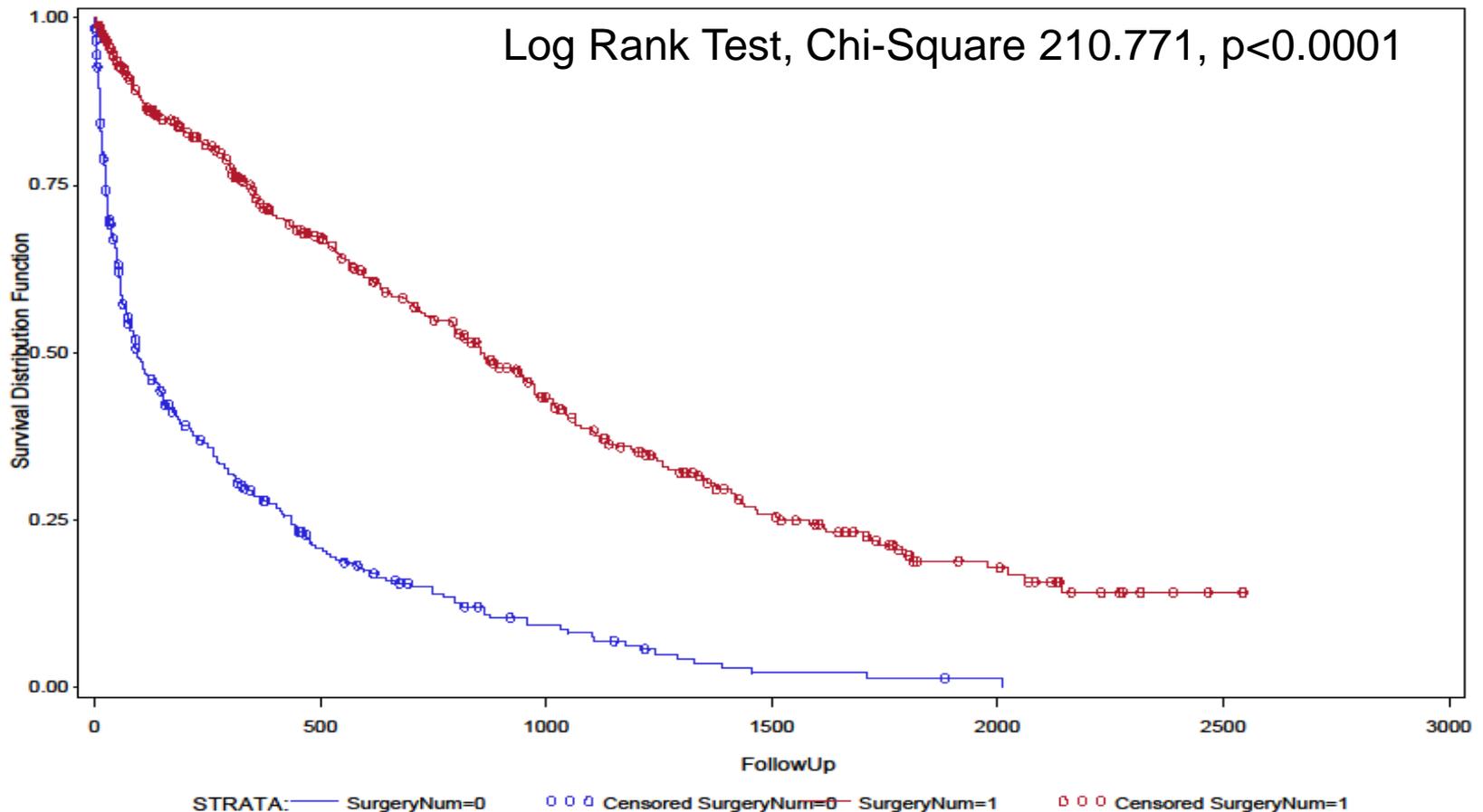
# Kaplan-Meier Survival Stratified by Surgery



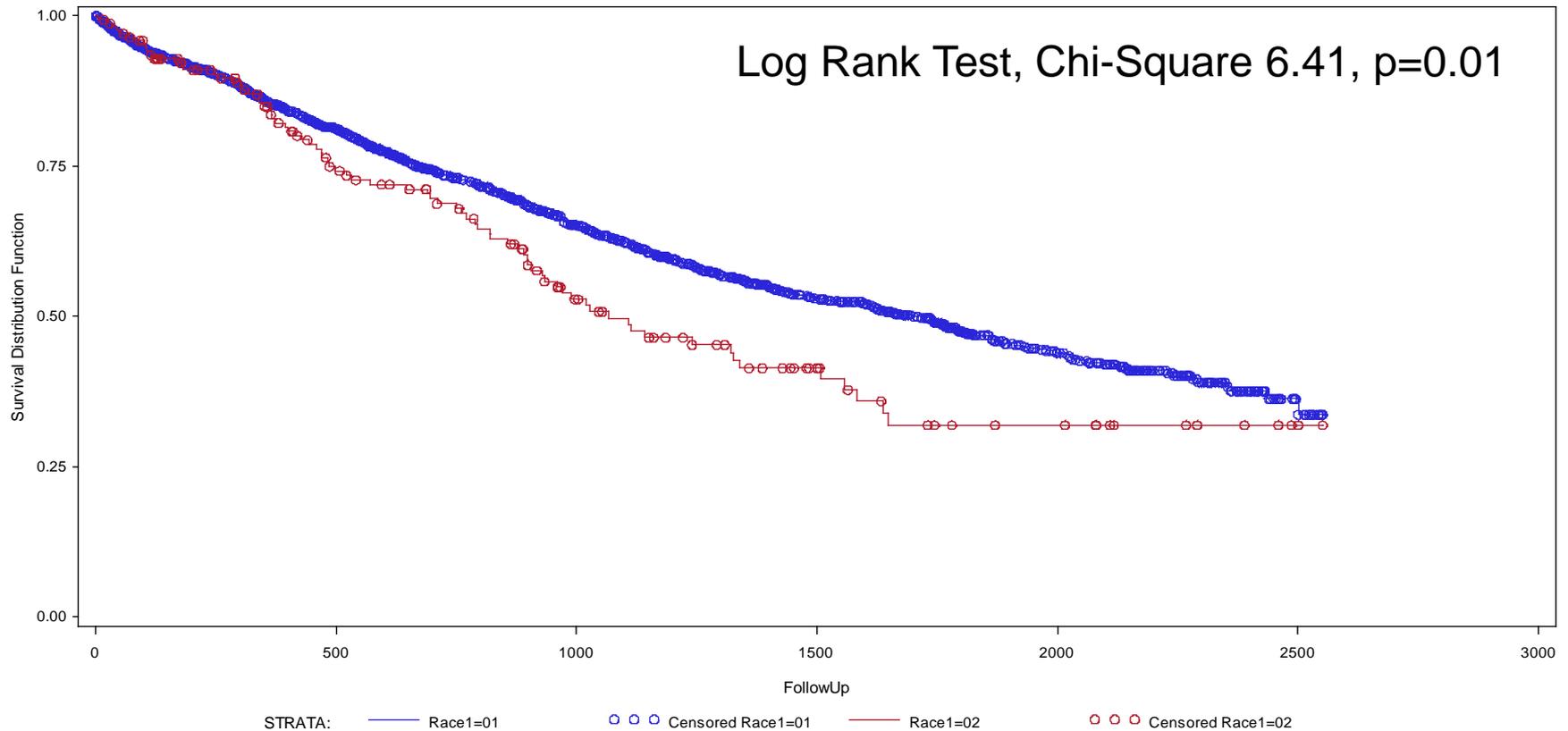
# SURGERY BY DIAGNOSIS STAGE

	No Surgery	Surgery
<b>DX Stage</b>		
<b>1</b>	29	497
<b>2</b>	24	193
<b>3</b>	87	722
<b>4</b>	330	423
<b>Unknown/Other</b>	184	168

# Kaplan-Meier Survival Stratified by Surgery, Stage IV Cases Only



# Kaplan-Meier Survival Stratified by Race for Women Receiving Surgery



# CONCLUSION

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- ✘ Epithelial ovarian cancers are the most commonly diagnosed form of ovarian cancer
- ✘ While black women experience better incidence and mortality rates compared to white women, they experience reduced survival, confirmed by this study
- ✘ Black women survived a median of only 427 days compared to 570 days for white women and were diagnosed at distant stage more frequently
- ✘ Surgery is the standard primary treatment and only 65.5% of black women received surgery compared to 75% of white women
- ✘ Women who received surgery displayed a significant survival advantage compared to women who did not; this was true for women diagnosed at distant stage as well. Black women who received surgical therapy had improved survival compared to the cohort of black women in this study.