



**Asian Perspectives,
The current Japanese situation
of prostate cancer treatment**



Hiroaki Aoki, Shigeo Horie

Juntendo University, Department of Urology,
Tokyo, Japan

Thank you Mr.Chairman, and Ladeis
and gentleman,
Good afternoon. My name is Hiroaki
Aoki.

I'm a urologist, at Juntendo
university, Tokyo, Japan.

I'd like to thank President Professor
Kanessvaran for giving me the
privilege to attend this conference.
Today I'd like to present the current
situation of prostate cancer in japan.

COI

There is no COI to be disclosed with any companies.



There is no Conflict of Interest in this presentation.

Agenda

- ▶ Epidemiology and Insurance system in Japan
- ▶ Treatment of localized prostate cancer in Japan
- ▶ Management of geriatric prostate cancer patients in Juntendo



Today, I've divided my presentation into 3 parts.

1st. I'll talk about Epidemiology of prostate cancer and the public Insurance system in Japan.

Then I'll move on to treatment of localized prostate cancer.

Finally I'll wrap things up with a look at our cases.

Juntendo University



This is the Main hospital of Juntendo university.

Juntendo University



- ▶ Established in 1838
- ▶ Total 6 hospitals, 4000 beds



It was established in 1838, This year is the 175th year anniversary. Juntendo is one of the most famous and biggest hospital group in japan. There are 6 hospitals and 4000 beds.

Juntendo University



Cherry trees in full bloom can be seen around the hospital.
If you have the chance to visit Juntendo, I highly recommend coming in spring.

Agenda

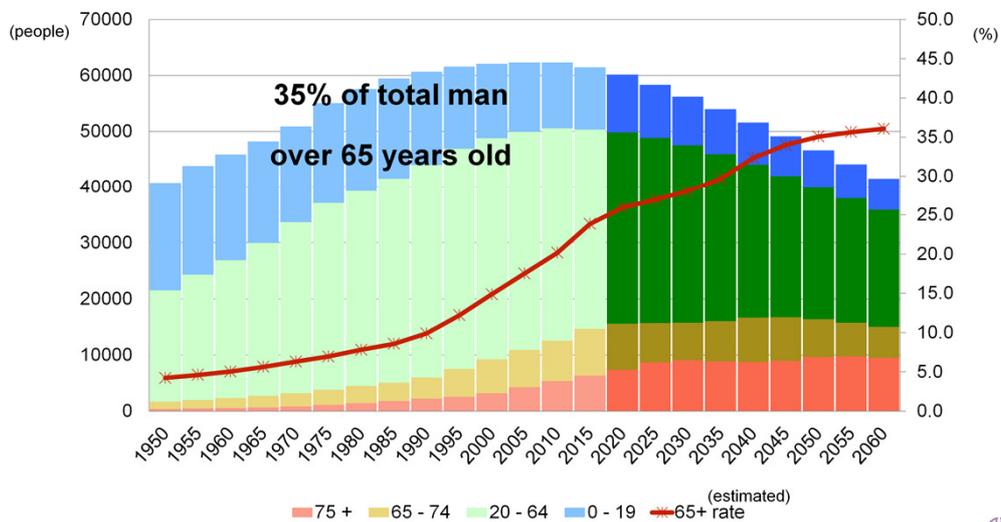
- ▶ Epidemiology and Insurance system in Japan
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Ok, Let's talk 1st topic.

Super aging society (Male)

JAPAN

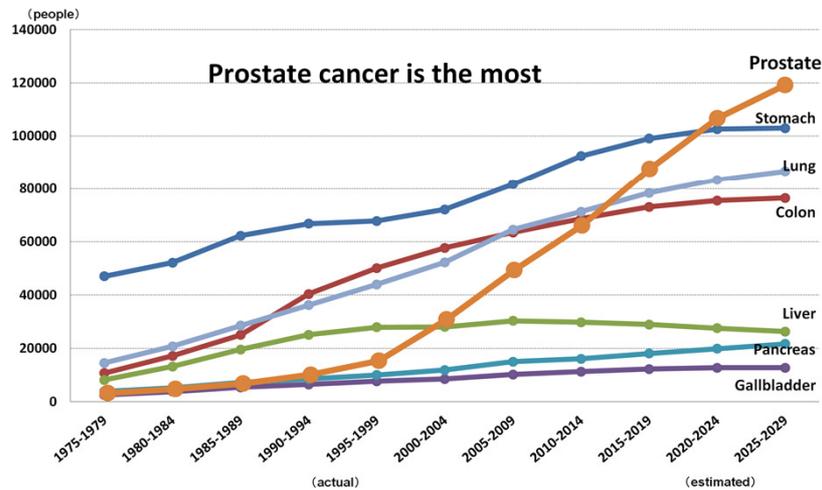


National Institute of Population and Social Security Research 2013



This graph shows the population component in Japan. Senior population are raising rapidly. in 2060, 35% of total man are over 65 years old.

Predictive Morbidity of Cancer in Japan



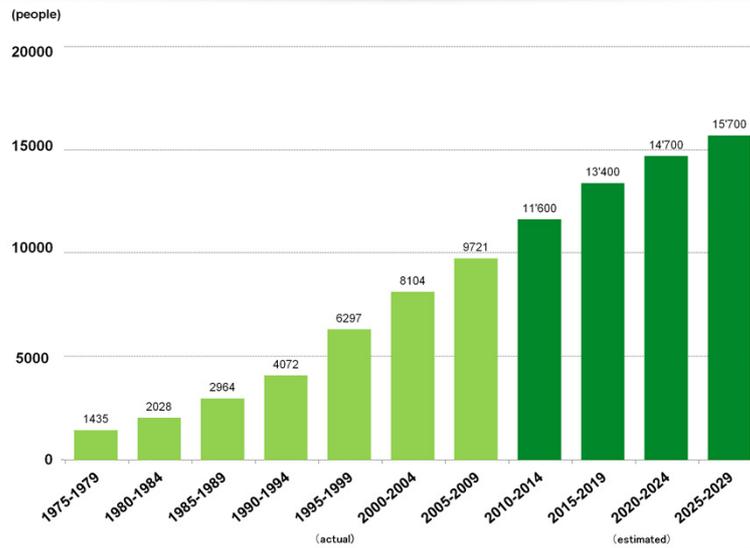
Center for Cancer Control and Information Services, National Cancer Center, Japan 2013



As the population age increases, the morbidity of prostate cancer also increases.

Prostate cancer is the most common cancer in Japan in 2025.

Predictive mortality of Prostate Cancer in Japan



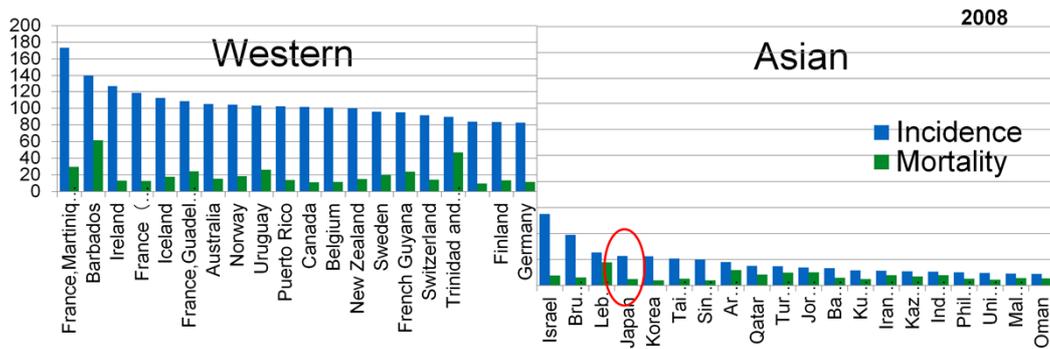
Center for Cancer Control and Information Services, National Cancer Center, Japan 2013



And Prostate cancer mortality also increases.

Prostate cancer incidence

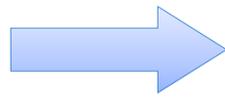
Low incidence in Asian countries



But, Japan and Asian countries are the smallest incidence rate.

Why ?

Why is the incidence of prostate cancer low in Japan ?



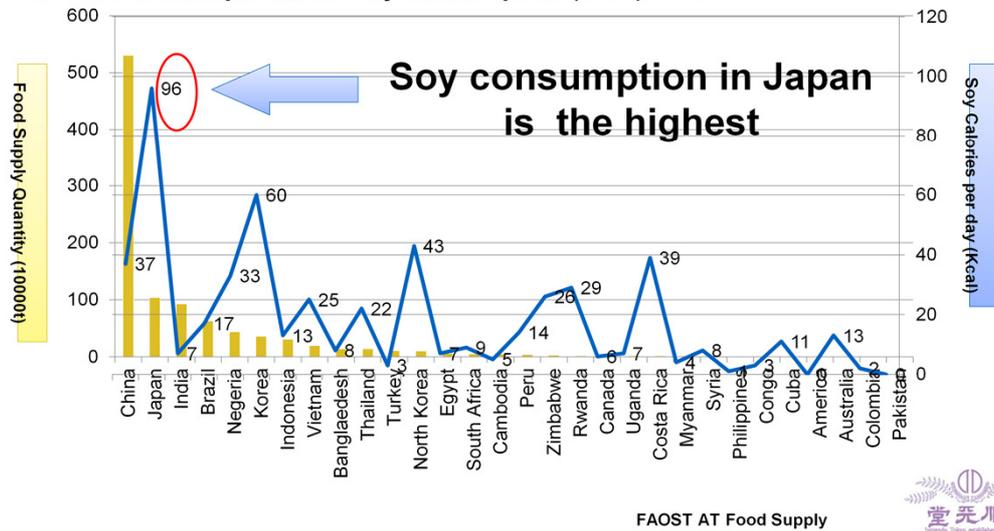
Nutrition



Why is the low incidence rate of prostate cancer in Japan.
I think Some nutrition causes that.



International Comparison of soy consumption (2007)



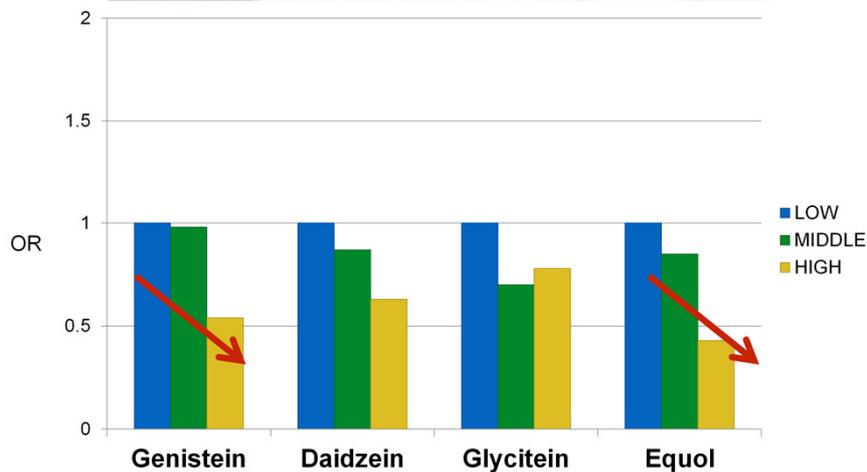
FAOST AT Food Supply



Key factor is soy. Soy consumption in Japan is the highest in the world. Washoku is the Japanese traditional style cuisine. We use soy in many washoku.

Isoflavones and Risk of prostate cancer

Prostate Cancer According to Plasma Level of Isoflavone by Stage



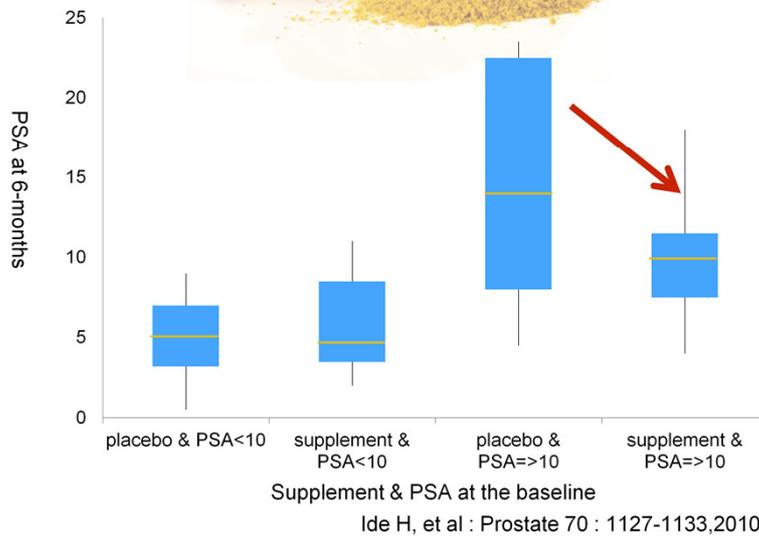
Kurahashi N, et al. J Clin Oncol. 2008 Dec 20;26(36):5923-9..



This data shows the decrease the risk of localized prostate cancer in the high plasma level of isoflavone. Genistein, Daidzein, Gycitein, Equol are the kinds of isoflavone. In localized cases, genistein and Equal were associated with a dose-dependent decrease in risk of localized prostate cancer. Recently, one study shows no different in prostate cancer prevention with soy supplement.

But, type of isoflavone, and intake period causes the incidence of prostate cancer.

Curcumin decreases PSA



another factor is curcumin. It's in a turmeric.

Isoflavone causes curucumin more effective and work as an antioxidant.

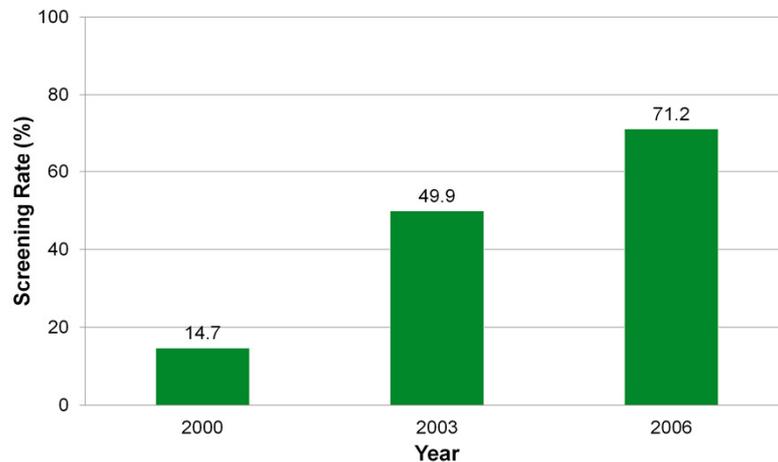
This data from teikyo university shows the effectiveness of decline PSA level.

PSA Screening is still controversial.



By the way, PSA screening is still controversial.

PSA Screening in Japan

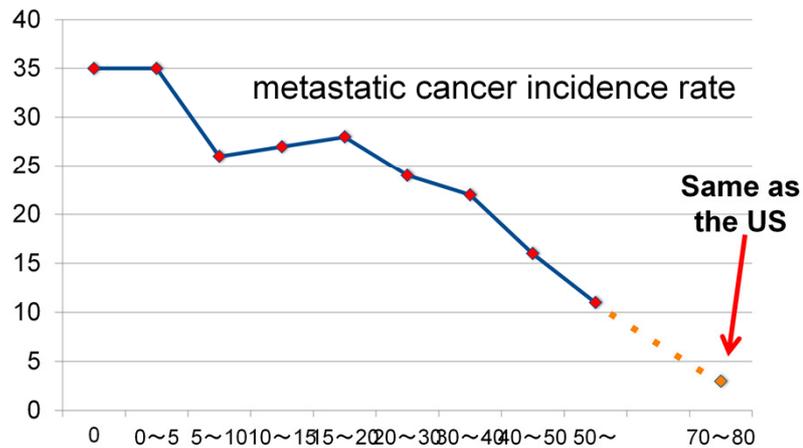


The Japanese Foundation for Prostate Reserch2007



Recently, PSA screening are proliferated in japan.
In 2006, 70% of japanese communities are carrying out PSA screening.

Metastatic Cancer Rate



H.Takechi et al : Hinyokigeka, 18(8), 997-999, 2005 changed a part of contents



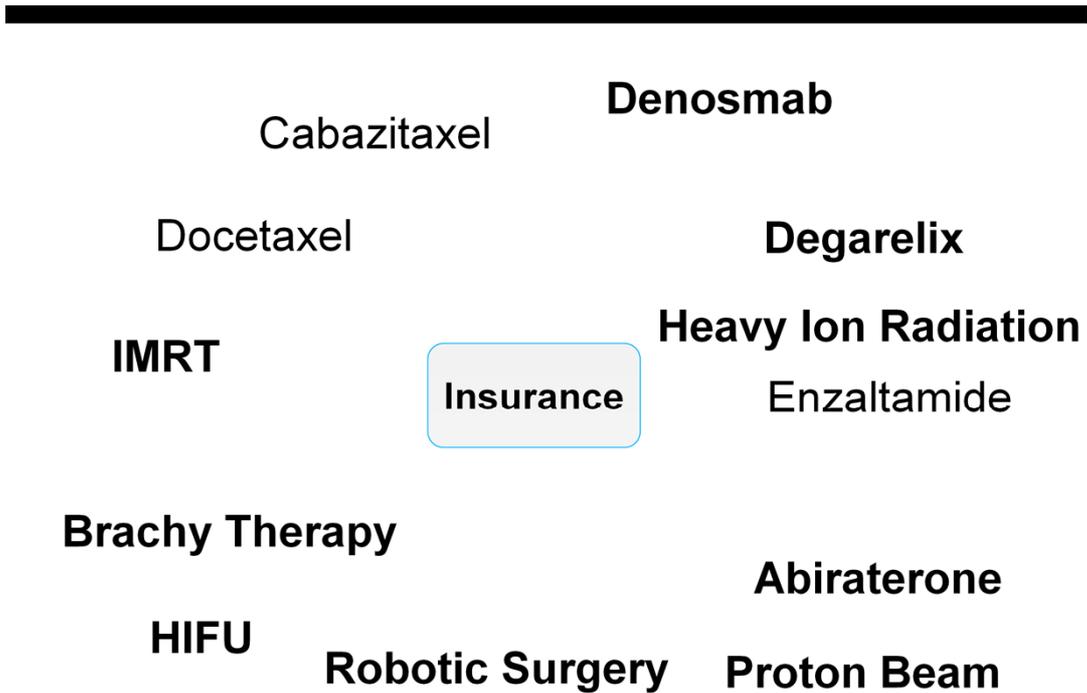
As the PSA screening rate raising,
metastatic cancer incidence rate is
decreasing.

Insurance System in Japan

**National Health Insurance
covers most treatments.
Patients pay below 30%.**



Before next topic, I should talk about the national health insurance system in Japan.



In Japan, most therapies and drugs are covered by the public insurance system.

I list up the available treatment of prostate cancer in Japan.

This year, we are available to use Enzaltamide, Abiraterone accerlate, Cabazitaxel.

Example

Robotic Prostatectomy
\$ 10,000 US

All patients
in japan

Under \$ 1000 US



For example of the cost, Robotic prostatectomy costs \$10,000, but patient pay under \$1000. because the insurance system sets an upper limit.

Summary 1

I
Rising senior population and Prostate cancer
incidence in Japan

II
Some food causes low incidence for
prostate cancer in Japan

III
All patients are given medical service
at low costs



This Topic's summary, Prostate cancer incidence are rising. but proliferation of PSA screening, metastatic prostate cancer is decreasing. and originally japan has low incidence of prostate cancer because of some food like soy or turmeric.
and medication in japan has low costs.

Agenda

- ▶ Epidemiology and Insurance system in Japan
- ▶ Treatment for localized prostate cancer in Japan
- ▶ Management of geriatric prostate cancer patients in Juntendo



so, Then I'll move on to the next. talk about localized prostate cancer.

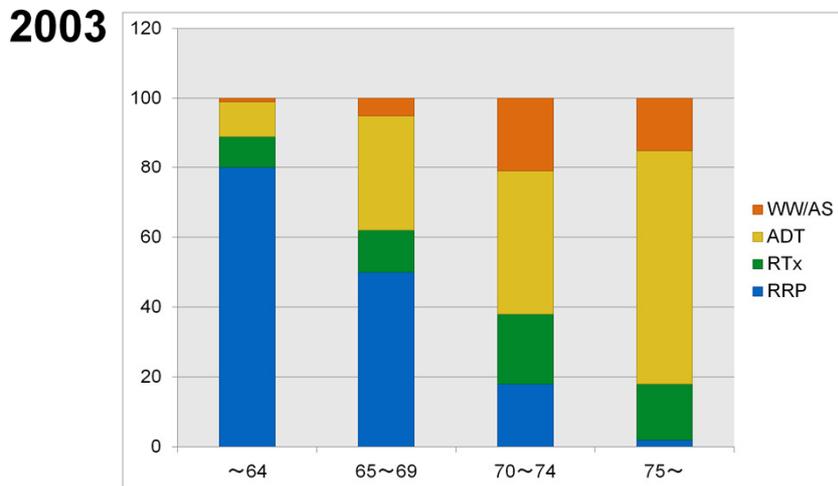
J-Cap (the Japan Study Group of Prostate Cancer)

- J-CaP surveillance is a nationwide longitudinal observational study of patients newly starting hormone therapy for prostate cancer.
- The 19,409 cases initially receiving primary Androgen Deprivation Therapy (ADT) were included in this study.



J-Cap is nationwide observational study, and 19,409 cases were taken primary Androgen deprivation.

Treatment of Localized Prostate Cancer



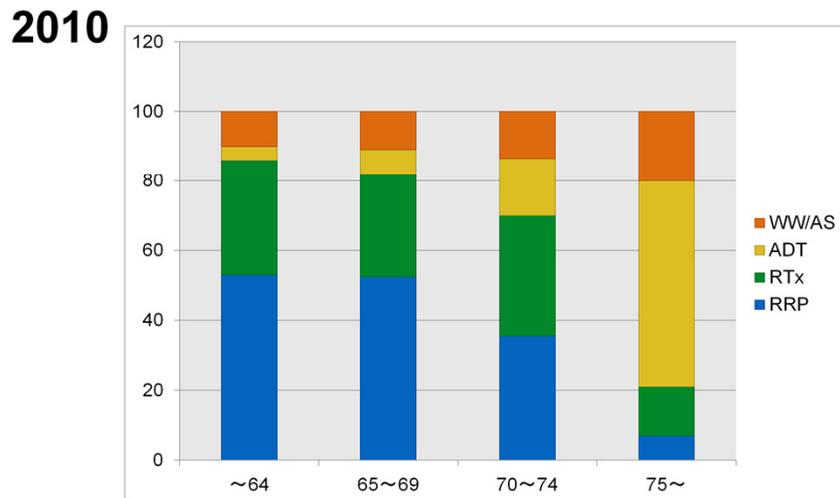
Maeda S, et al. : Rinshohinyoki, 57(4), 207, 2003.



This bar graph shows the primary therapy in localized prostate cancer in 2003.

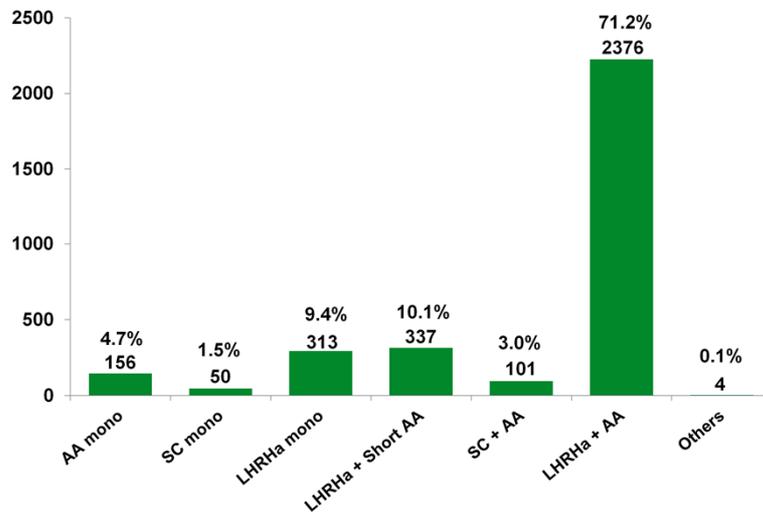
a lot of geriatric patients take Androgen deprivation therapy.

Treatment of Localized Prostate Cancer



In 2010, there is a few changes,
radiation therapy increased.
And active surveillance increased in
younger patients.
And surgery was a few increased in
over 70 years old.

Treatment details of ADT



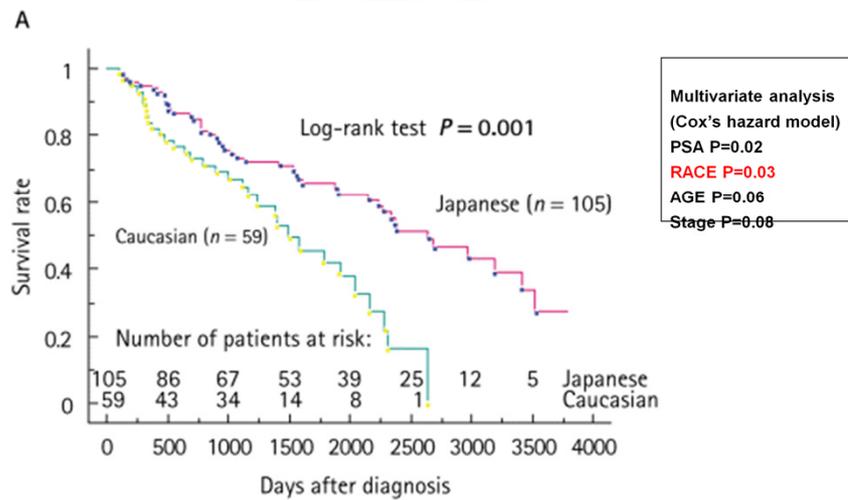
JJCO 2007;37:705



In the androgen deprivation therapy, most of them take Combined androgen blockade.

Survival Rate

Japanese VS Caucasian



Fukagai T, et al. *BJU Int* 2006;97:1190-3.



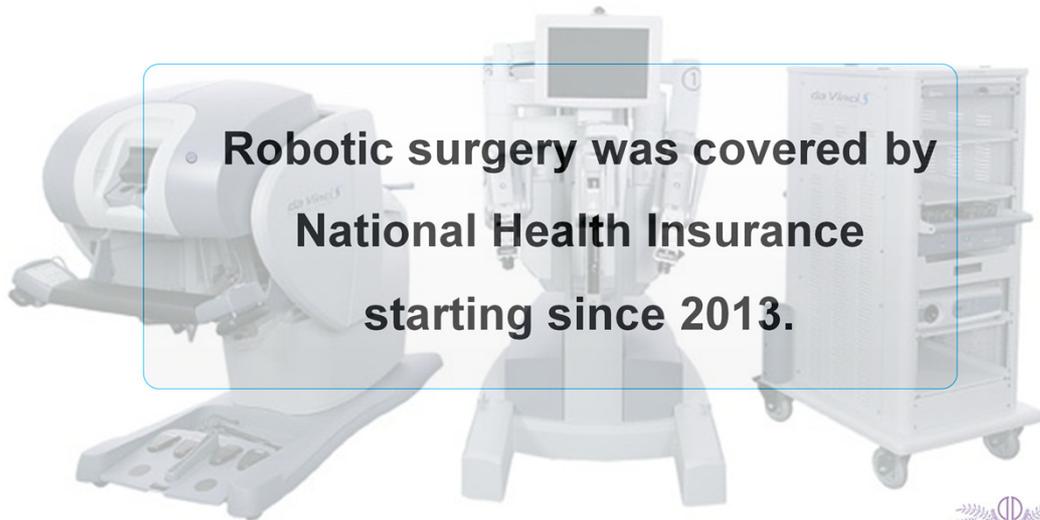
This data shows clinical outcome after androgen deprivation. Japanese was better result than caucasian. Combined androgen blockade is possibility of reason why Japanese survival rate is higher than Caucasian.

-
- **Is the Surgical Treatment decreasing ?**



So, is the Surgical Treatment decreasing in the future?
I think it isn't
Surgical treatment might increase.

Surgical Treatment

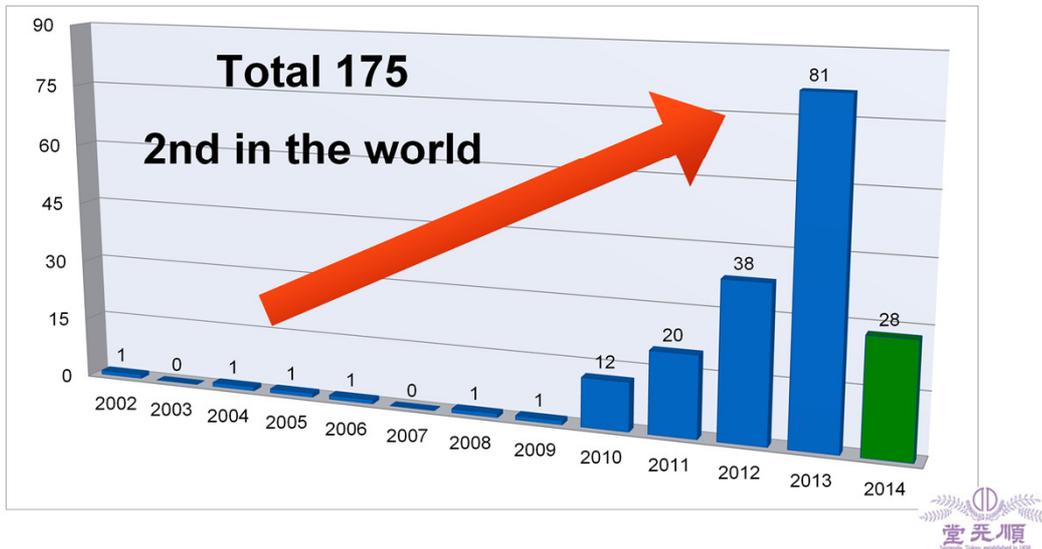


- **Robotic surgery was covered by National Health Insurance starting since 2013.**



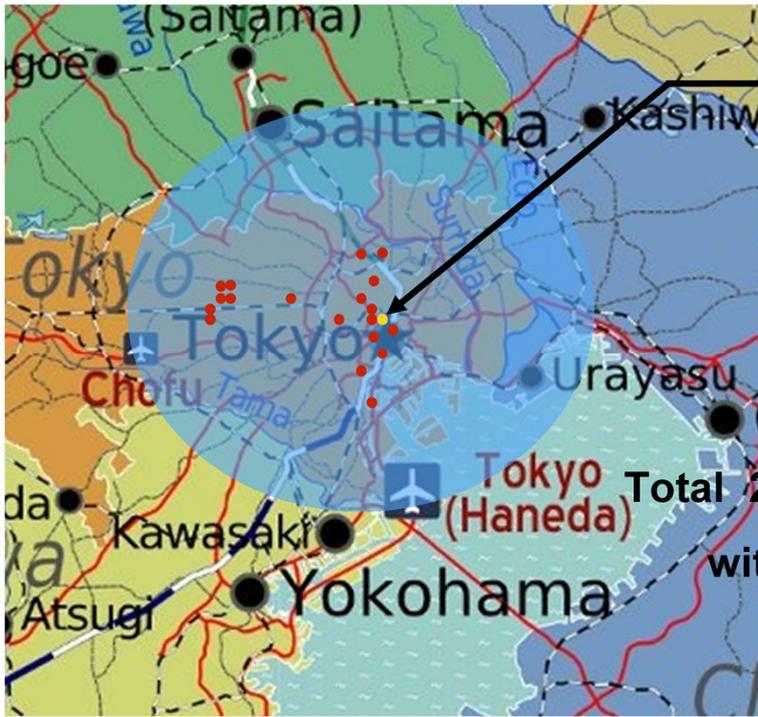
The cause is that Robotic surgery was covered by national health insurance starting since 2013.

da vinci system in Japan



after that, robotic surgery is increased rapidly.

At the present time, there are 175 da vinci systems are working in Japan.



Juntendo

Total 20 machines
within 15km



The yellow point shows juntendo.
There are 20 machines around
Juntendo within 15Km.

Summary 2

I

Geriatric patients take CAB in Japan

II

J-Cap database shows ADT had better result in Japan

III

Robotic surgery is increasing recently



Summary 2

In Japan, a lot of patients take CAB and the result is higher survival rate than caucasians.

Recently Radiation therapy is increasing, but in the future, the Statistical data shows increasing robotic surgery.

Agenda

- ▶ Epidemiology and Insurance system in Japan
- ▶ Treatment for localized prostate cancer in Japan
- ▶ Management of geriatric prostate cancer patients in Juntendo



Finally I'll wrap things up with a look at our data and some clinical study

Adverse Events of ADT

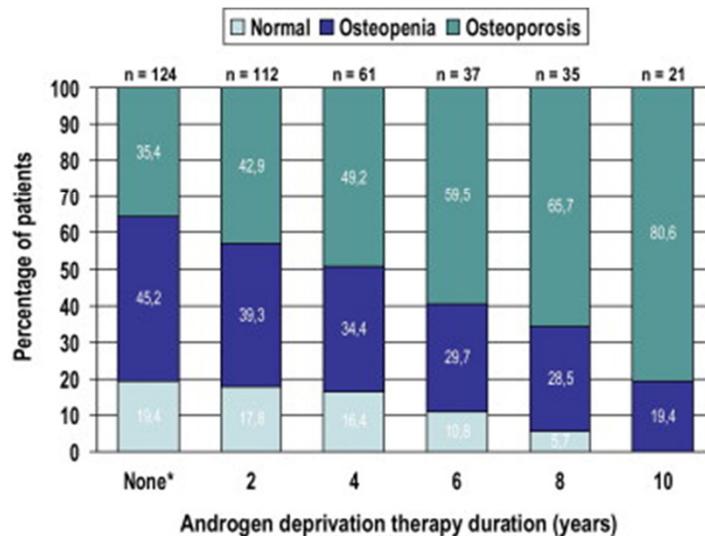
- Osteoporosis
- Loss of muscle mass
- Weight gain
- Cardiovascular disease
- Diabetes

- Increased cholesterol
- Memory loss
- Depression
- Reduce of libido
- Fatigue
- Hot flashes



There are many adverse event on androgen deprivation.
We need supports to prevent these events.

Osteoporosis



Morote J, et al. Urology.2007 Mar;69(3):500-4.



This bar graph shows the rate of osteoporosis after Androgen deprivation.

It is Very high, There are 80% after 10 years androgen deprivation.

Frailty and Sarcopenia

- **Muscle volume reduction**
- **Physical strength Declines**



Frailty and sarcopenia is very important in geriatric patients. it is serious problem in Japan.
Androgen Deprivation causes muscle mass reducing

Strategy

- 1 Prevention
- 2 Enhancement
- 3 Maintain ADL



We investigate how to prevent muscle and bone mineral decrease and enhance the physical strength, maintain Activity of Daily Life. We build up the program for Androgen deprivation.

**Denosmab
Bisphosphonate**

**Calucium
Vitamine D**

**Protein
Antioxidant**

Exercise



This is the factor of this program.
Above factor is for bone mineral, and
below factor is for muscle.
Just preliminary practice, and we
check the balance of these factors.
Quantity of protein intake, or kind
antioxidant or when is starting on
Androgen deprivation. Before or
after.

ADT

VS.

- RARP
- Cost effectiveness
 - Low incidence of complication



However Adndrogen deprivation causes some Adverse event, Robotic surgery is low incidence of complication and has cost effectiveness.

RARP in patients over 70 y.o. in Juntendo

	N=37
Age	72 (70.5-73)
BMI	22.93 (21.69-24.89)
ASA Score	I =16, II =21
Charlton Comorbidity Index	5=23, 6=9, 7=4, 9=1
PSA	7.45 (5.48-10.88)
Gleason Score	5=5, 6=9, 7=12, 8=5, 9=1
cT Stage	T1c=11, T2=20, T3=1,
Neoadjuvant Hormone Tx	+ : 14, - : 23,
Operative Time	191 min (175-209min)
Blood Loss	110 mg (50-310mg)
Post Ope Hospital Day	10 days (9-11days)

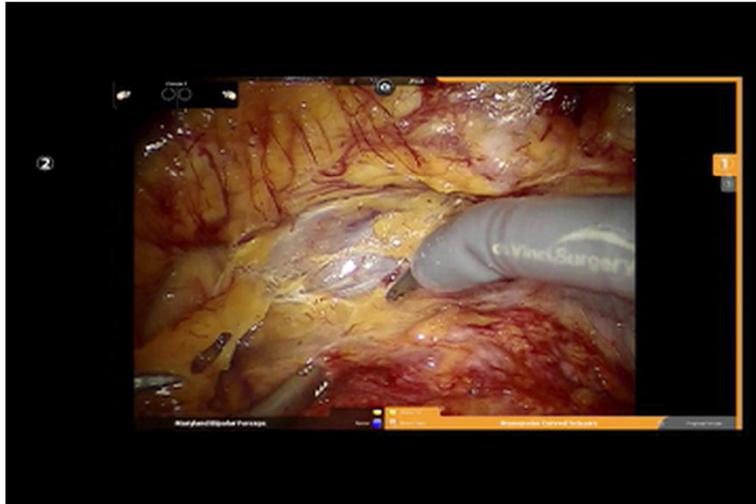


and in our institution Robotic surgery started from July 2013. In just a year 120 cases were taken. 37 cases were over 70years old.

This chart shows our characteristic data who took Robotic Prostatectomy in over 70 years old. Most patients is healthy or vulnerable men.

There were no complication and early recovery.

RARP



I show you the operation video.
this video show very dry feild,
smooth handling the instruments,
easier suturing.

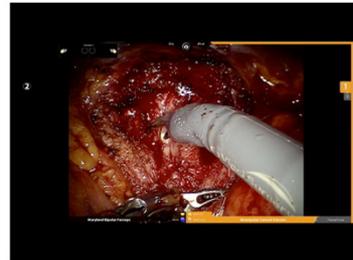
As we are available to see the detail,
we preserve the pelvic floor muscle
and neurovascular bands and it's
causes the good result for
continence and potency.

RARP

1 Minimum blood loss

2 Minimum operative time

3 Early recovery

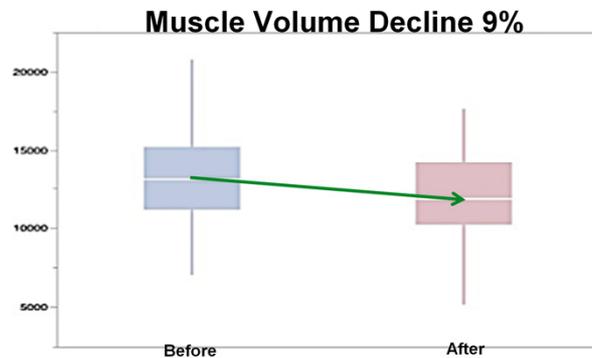


Robotic surgery make minimum invasive surgery.

very little blood loss and shorter surgical time.

we think it is suited to geriatric patients.

Sarcopenia patients in Radical Cystectomy



Muscle reduction after surgery over 15%

parameter	Odds ratio	below95% CI	above95% CI	P-value
Operative time Over 480 min	2.66	1.029443	6.907724	0.0388



We survey about Surgery and Muscle reduction.

In the survey for radical cystectomy, it shows long surgical time cause decreasing muscle mass around 9% before surgery.

This result apply to prostate cancer or other surgery.

Comprehensive Geriatric Assessment for surgery



Questionnaire.

MMSE, SDS, ADL Comorbidity, etc.



Nutrition Assessment.

Weight, BMI, Blood Examination.

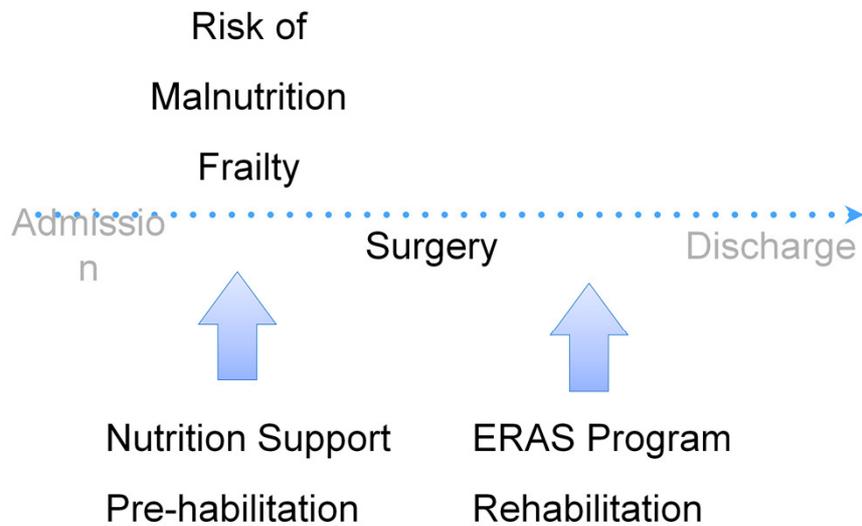


Physical Assessment.

Grip Strength, Walking Speed.



Now we build up the surgery program for geriatric patients. We evaluate these assessment. In the Questionnaire, there are Depression scale, Mental scale, IADL and other comorbidity assessments. In Nutrition analysis, we evaluate Mini nutrition assessment and serum albumin, total cholesterol, fatty acid, And in Physical assessment, we evaluate grip strength, and walking speed.



In the case who find the risk of malnutrition or frailty, we set up support program before surgery. Nutritionist and physical therapist supports us, and provide some nutrition supplement and appropriate exercise. After surgery they follow patients continuously.

Summary 3

I

ADT causes some adverse event

II

Prevention Program are needed

III

Minimum invasive surgery is available to geriatric patients.



Summary3

Androgen deprivation affect some adverse event for patients. So, we need prevention program. and minimum invasive surgery is available to geriatric patients.

Conclusion

1. Prostate cancer incidence increase in Japan.
2. J-Cap database shows ADT had better result in Japan.
3. ADT causes some adverse events.
4. Robotic surgery has rapidly proliferated.
We believe minimum invasive surgery is the better and safe option for geriatric patients.
5. We build up the surgery program for geriatric patients.



Today I talk about situation in Japan.
Prostate cancer incidence
increase in Japan.

J-Cap database shows Androgen
deprivation had better result in
Japan.

But Androgen deprivation causes
some adverse events.

Recently, Robotic surgery rapidly
proliferated. So, we believe
minimum invasive surgery is the

better and safe option for geriatric patients.

These bring me to the end of my presentation.



Thank you.



Thank you for your time and kind attention.