C-reactive protein (CRP) as a predictive marker for outcomes with avelumab + axitinib (A + Ax) in patients with poor-risk advanced renal cell carcinoma (aRCC): exploratory analysis from JAVELIN Renal 101

Y. Tomita,[1] R. J. Motzer,[2] T. K. Choueiri,[3] B. I. Rini,[4] H. Uemura,[5] M. Oya,[6] L. Albiges,[7] Y. Fujii,[8] Y. Umeyama,[8] B. Huang,[9] A. di Pietro,[10] M. Schmidinger[11]

[1]Niigata University Graduate School of Medicine, Niigata, Japan; [2]Memorial Sloan Kettering Cancer Center, New York, NY, USA; [3]Lank Center for Genitourinary Oncology, Dana-Farber Cancer Institute, Boston, MA, USA; [4]Vanderbilt University, Nashville, TN, USA; [5]Kindai University Faculty of Medicine, Osaka, Japan; [6]Keio University School of Medicine, Tokyo, Japan; [7]Institut Gustave Roussy, Villejuif, France; [8]Pfizer R&D Japan, Tokyo, Japan; [9]Pfizer, Groton, CT, USA; [10]Pfizer SLR, Milan, Italy; [11]Medical University of Vienna, Vienna, Austria

JAVELIN Renal 101

SCOPE

- This study analyzed the association between CRP levels and prolonged progression-free survival (PFS) and overall survival (OS) in patients with aRCC and poor International Metastatic RCC Database Consortium (IMDC) risk who were treated with A+Ax in the phase 3 JAVELIN Renal 101 trial (NCT02684006)

CONCLUSIONS

- In the JAVELIN Renal 101 trial, several patients in the A+Ax arm who had poor IMDC risk (3 or 4-6 IMDC risk factors) had durable responses and prolonged PFS and OS
- In patients with 3 IMDC risk factors who had prolonged PFS and OS (n=7), CRP levels were generally low at baseline and remained low for 24 months
- In patients with 4-6 IMDC risk factors who had prolonged PFS and OS (n=5), CRP levels were high at baseline but decreased markedly within 6 weeks and were maintained for 24 months
- Low CRP levels at baseline and during treatment, or a rapid decrease in high CRP levels, might predict favorable long-term outcomes in patients with poor-risk aRCC treated with A+Ax, although CRP levels are unspecific and may increase or decrease as a result of other diseases or comorbidities

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Correspondence:
Yoshihiko Tomita, ytomita@med.niigata-u.ac.jp

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BACKGROUND

- In the JAVELIN Renal 101 trial, patients with aRCC treated with A+Ax had prolonged PFS and a higher objective response rate than those treated with sunitinib across all IMDC risk groups (favorable, intermediate, and poor)[1-3]
  - At the third interim analysis (IA3) for OS, several patients with poor IMDC risk in the A+Ax arm had prolonged PFS and OS
  - Follow-up analyses suggest that CRP levels at baseline and early after treatment may predict outcomes in patients treated with A+Ax[4]
- CRP is an important prognostic and predictive factor in patients with aRCC treated with various therapies, such as cytokines, tyrosine kinase inhibitors, and immune checkpoint inhibitors[4-9]
- Here we report the association between CRP levels and prolonged PFS and OS with A+Ax treatment in patients with aRCC who have poor IMDC risk from the JAVELIN Renal 101 trial

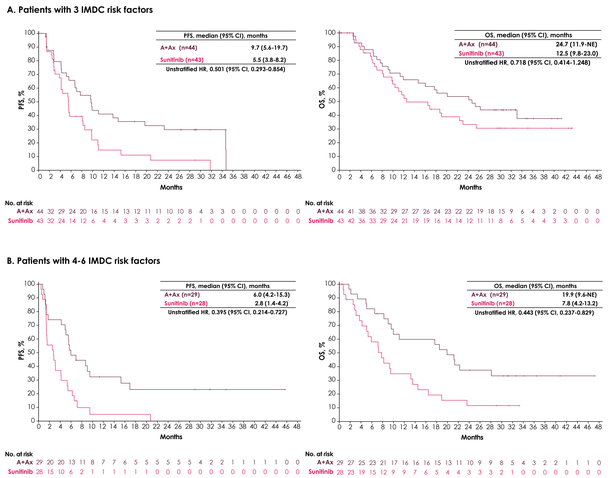
METHODS

- JAVELIN Renal 101 was a multicenter, open-label, randomized, phase 3 trial comparing A+Ax vs sunitinib in patients with previously untreated aRCC
  - Primary endpoints were PFS per blinded independent central review (RECIST 1.1) and OS in patients with PD-L1+ tumors
- PFS per investigator assessment (RECIST 1.1) and OS from the IA3 for OS were assessed. The IA3 was based on a data cutoff point 15 months after the preplanned final analysis for PFS
  - The Kaplan-Meier method was used to estimate PFS and OS; unstratified hazard ratios (HRs) and corresponding 95% CIs are reported
- CRP levels were assessed at screening and on day 1 of each 6-week cycle
  - Patients were categorized into subgroups based on CRP levels: normal (baseline CRP <10 mg/L), normalized (baseline CRP ≥10 mg/L and ≥1 CRP value decreased to <10 mg/L during 6-week treatment), or nonnormalized (CRP ≥10 mg/L at baseline and during 6-week treatment)
- CRP levels were compared in patients with prolonged PFS and OS (defined as PFS ≥24 months and OS ≥30 months) or PFS <24 months (any OS duration) in the A+Ax arm
  - Patients were excluded from this analysis if their PFS was censored at <24 months or if their OS was censored at <30 months (if they did not experience progression in <24 months)

RESULTS

- At the data cutoff for IA3 (April 2020), the minimum follow-up was 28 months
- In the A+Ax (n=442) and sunitinib arms (n=444), 44 and 43 patients had 3 IMDC risk factors, respectively, and 29 and 28 patients had 4-6 IMDC risk factors
- PFS and OS favored A+Ax over sunitinib in patients with 3 or 4-6 IMDC risk factors (**Figure 1**)

Figure 1. PFS and OS in patients with poor IMDC risk treated with A+Ax vs sunitinib



A+Ax, avelumab + axitinib; **HR**, hazard ratio; **IMDC**, International Metastatic RCC Database Consortium; **NE**, not estimable; **OS**, overall survival; **PFS**, progression-free survival.

- Baseline characteristics of patients in the A+Ax arm who had prolonged PFS and OS or PFS <24 months are shown in **Table 1** and **Suppl Tables 1 and 2**
  - 7 patients with 3 IMDC risk factors had prolonged PFS and OS, and 26 had PFS <24 months
  - 5 patients with 4-6 IMDC risk factors had prolonged PFS and OS, and 20 had PFS <24 months
  - Among patients with 3 or 4-6 IMDC risk factors, a higher proportion of patients with prolonged PFS and OS had a prior nephrectomy and a longer time from initial diagnosis to randomization vs patients with PFS <24 months
  - Among patients with 3 IMDC risk factors, most patients with prolonged PFS and OS were in the normal CRP group, whereas most patients with PFS <24 months were in the nonnormalized CRP group
  - Among patients with 4-6 IMDC risk factors, most patients were in the nonnormalized CRP group regardless of whether they had prolonged PFS and OS or PFS <24 months

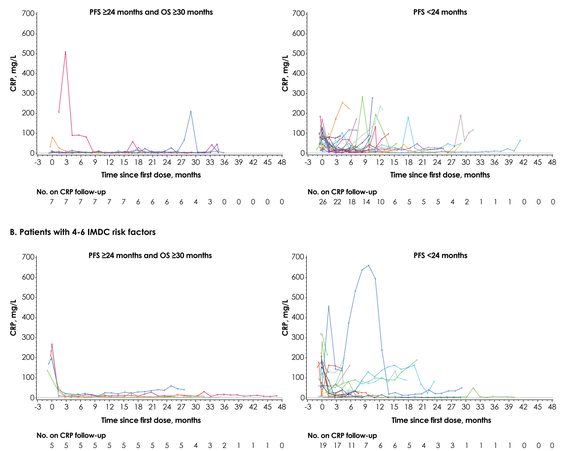
Table 1. Baseline characteristics of patients with poor IMDC risk in the A+Ax arm

	3 IMDC risk factors		4-6 IMDC risk factors	
Baseline characteristics	**PFS ≥24 and OS ≥30 months (n=7)**	**PFS <24 months (n=26)**	**PFS ≥24 and OS ≥30 months (n=5)**	**PFS <24 months (n=20)**
Age, median (range), years	61 (50-69)	61 (37-79)	62 (56-69)	55 (41-71)
Sex, n (%)				
Female	3 (42.9)	8 (30.8)	1 (20.0)	8 (40.0)
Male	4 (57.1)	18 (69.2)	4 (80.0)	12 (60.0)
Race, n (%)				
Asian	3 (42.9)	4 (15.4)	1 (20.0)	4 (20.0)
White	4 (57.1)	19 (73.1)	3 (60.0)	14 (70.0)
Others	0	3 (11.5)	1 (20.0)	2 (10.0)
PD-L1 expression, n (%)				
<1% (negative)	2 (28.6)	7 (26.9)	1 (20.0)	6 (30.0)
1%-<5%	3 (42.9)	10 (38.5)	3 (60.0)	6 (30.0)
5%-<10%	1 (14.3)	5 (19.2)	1 (20.0)	3 (15.0)
≥10%	0	1 (3.8)	0	2 (10.0)
Unknown	1 (14.3)	3 (11.5)	0	3 (15.0)
ECOG PS, n (%)				
0	4 (57.1)	12 (46.2)	1 (20.0)	5 (25.0)
1	3 (42.9)	14 (53.8)	4 (80.0)	15 (75.0)
Fuhrman grade, n (%)				
1 or 2	1 (14.3)	5 (19.2)	2 (40.0)	2 (10.0)
3 or 4	2 (28.6)	15 (57.7)	2 (40.0)	9 (45.0)
Unknown	4 (57.1)	6 (23.1)	1 (20.0)	9 (45.0)
Prior nephrectomy, n (%)	6 (85.7)	17 (65.4)	4 (80.0)	10 (50.0)
Time from initial diagnosis, median (range), months	6.0 (0.9-11.0)	2.6 (0.5-150.9)	9.2 (1.1-34.2)	2.0 (0.4-67.6)
CRP group, n (%)				
Normal	4 (57.1)	1 (3.8)	0	1 (5.0)
Normalized	0	3 (11.5)	1 (20.0)	2 (10.0)
Nonnormalized	1 (14.3)	18 (69.2)	4 (80.0)	15 (75.0)
Unknown	2 (28.6)	4 (15.4)	0	2 (10.0)
NLR, n (%)				
<Median	4 (57.1)	8 (30.8)	0	1 (5.0)
≥Median	3 (42.9)	18 (69.2)	5 (100)	19 (95.0)
LDH >1.5×ULN, n (%)				
No	7 (100)	22 (84.6)	4 (80.0)	16 (80.0)
Yes	0	3 (11.5)	1 (20.0)	4 (20.0)
Unknown	0	1 (3.8)	0	0
No. of target tumor sites at baseline by investigator assessment, n (%)				
1	5 (71.4)	6 (23.1)	2 (40.0)	7 (35.0)
2	2 (28.6)	8 (30.8)	2 (40.0)	8 (40.0)
3	0	8 (30.8)	1 (20.0)	3 (15.0)
≥4	0	4 (15.4)	0	2 (10.0)

A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **IMDC**, International Metastatic RCC Database Consortium; **LDH**, lactate dehydrogenase; **NLR**, neutrophil to lymphocyte ratio; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma; **ULN**, upper limit of normal.

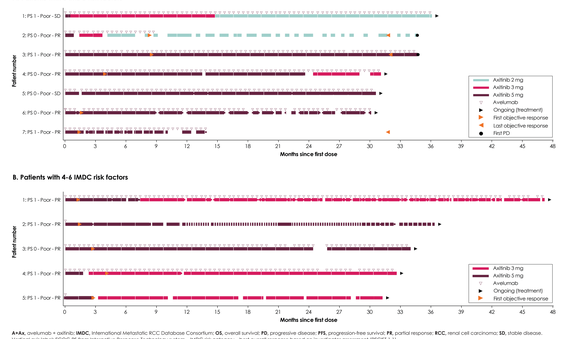
- In patients with 3 IMDC risk factors who had prolonged PFS and OS, CRP levels were generally low at baseline and remained low for 24 months. In patients with 4-6 IMDC risk factors who had prolonged PFS and OS, CRP levels were high at baseline but decreased markedly within 6 weeks and were maintained for 24 months (**Figure 2**, **Suppl Figure 1**, and **Suppl Table 3**)
- Durable responses were observed in patients with 3 or 4-6 IMDC risk factors who had prolonged PFS and OS (**Figure 3**)
- In patients with poor IMDC risk, PFS and OS generally favored A+Ax over sunitinib across subgroups, including CRP (**Suppl Figure 2**)

Figure 2. CRP levels over time in patients with poor IMDC risk who had prolonged PFS and OS vs those with PFS <24 months in the A+Ax arm



A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **IMDC**, International Metastatic RCC Database Consortium; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma.

Figure 3. Treatment duration, time to response, and duration of response per investigator assessment in patients with poor IMDC risk who had prolonged PFS and OS in the A+Ax arm



A+Ax, avelumab + axitinib; **IMDC**, International Metastatic RCC Database Consortium; **OS**, overall survival; **PD**, progressive disease; **PFS**, progression-free survival; **PR**, partial response; **RCC**, renal cell carcinoma; **SD**, stable disease. Vertical axis label: ECOG PS from Interactive Response Technology system – IMDC risk category – best overall response based on investigator assessment (RECIST 1.1).

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Supplemental Table 1. Baseline characteristics of 7 patients with 3 IMDC risk factors who had prolonged PFS and OS with A+Ax

Baseline characteristics	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6	Patient 7
OS, months	>36.1	>34.8	>39.6	>31.1	>30.6	>30.2	>32.8
PFS, months	>34.6	34.7	34.7	>28.8	>29.2	>29.1	>31.8
Age, years	56	61	62	66	55	69	50
Sex	Female	Male	Female	Male	Female	Male	Male
Race	White	Asian	White	White	White	Asian	Asian
PD-L1 expression, %	0	3	5	Not reported	<1	1	1
ECOG PS	1	0	1	0	0	0	1
Prior nephrectomy	Yes	Yes	Yes	No	Yes	Yes	Yes
No. of IMDC risk factors	3	3	3	3	3	3	3
IMDC risk*	<12 mo, Ca, platelet	<12 mo, Hb, platelet	<12 mo, Hb, Ca	<12 mo, Hb, Ca	<12 mo, Hb, Ca	<12 mo, Hb, platelet	<12 mo, Hb, platelet
Time from initial diagnosis, months	6.0	6.2	6.0	0.9	11.0	1.6	1.3
Fuhrman grade	Not reported	4	Not reported	Not reported	4	2	Not reported
TNM stage at initial diagnosis	IV	IV	III	IV	IV	IV	IV
Sum of longest diameter for target lesion, mm†	22	29	93	75	83	10.9	50
Target lesion†	Adrenal, 22 mm	Lung, 12 mm Lung, 17 mm	Psoas muscle, 78 mm Lymph node, 15 mm	Kidney, 75 mm	Liver, 37 mm Liver, 30 mm Lymph node, 16 mm	Lung, 10.9 mm	Lung, 29 mm Lung, 21 mm
CRP group	Normal	Normal	Unknown	Normal	Unknown	Normal	Nonnormalized
CRP, mg/L‡							
Baseline	4.0	9.6	Not reported	7.0	Not reported	2.0	80.1
6 weeks	8.0	1.0	206.0	4.0	Not reported	3.2	25.5
6 months	7.0	5.9	90.4	4.0	8.0	4.8	5.0
12 months	2.0	1.6	3.2	2.0	6.0	2.2	5.2
18 months	15.0	1.7	2.8	2.0	11.0	28.4	Not reported
24 months	5.6	26.9	4.9	2.0	5.0	1.3	Not reported

A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **Hb**, hemoglobin; **IMDC**, International Metastatic RCC Database Consortium; **LLN**, lower limit of normal; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma; **TNM**, tumor-node-metastasis; **ULN**, upper limit of normal.
*≥2 mo from initial diagnosis to randomization, Ca >2.5 mmol/L, Hb <LLN, platelet >ULN. †Investigator assessment. ‡Minimum CRP value by 6 weeks' maximum CRP value around 6, 12, 18, and 24 months (±30 days).

Supplemental Table 2. Baseline characteristics of 5 patients with 4-6 IMDC risk factors who had prolonged PFS and OS with A+Ax

Baseline characteristics	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
OS, months	>47.2	>36.4	>34.1	>32.7	>31.3
PFS, months	>45.7	>34.7	>31.7	>31.7	>29.0
Age, years	59	56	69	65	62
Sex	Male	Male	Male	Male	Female
Race	Asian	White	White	White	Other
PD-L1 expression, %	5	3	<1	2	1
ECOG PS	1	1	0	1	1
Prior nephrectomy	Yes	Yes	Yes	No	Yes
No. of IMDC risk factors	5	4	4	5	4
IMDC risk*	<12 mo, Hb, Ca, neutrophil, platelet	<12 mo, Hb, Ca, platelet	Hb, Ca, neutrophil, platelet	<12 mo, Hb, Ca, neutrophil, platelet	<12 mo, Hb, Ca, platelet
Time from initial diagnosis, months	1.4	10.1	34.2	1.1	9.2
Fuhrman grade	4	2	4	Not reported	2
TNM stage at initial diagnosis	IV	IIIA	III	IV	III
Sum of longest diameter for target lesion, mm†	80	118	130	174	52
Target lesion†	Lung, 16 mm Chest, 17 mm Bone, 47 mm	Liver, 86 mm Liver, 32 mm	Adrenal, 27 mm Pancreatic tail lesion, 17 mm Peritoneal lesion, 20 mm Lymph node, 41 mm Lymph node, 25 mm	Kidney, 141 mm Lung, 18 mm Lung, 15 mm	Lung, 25 mm Lung, 27 mm
CRP group	Nonnormalized	Normalized	Nonnormalized	Nonnormalized	Nonnormalized
CRP, mg/L‡					
Baseline	266.3	244.0	136.0	191.0	200.0
6 weeks	10.0	3.5	35.0	54.0	41.0
6 months	14.8	Not reported	20.0	4.0	22.0
12 months	10.0	2.1	3.0	4.0	25.0
18 months	7.4	1.1	3.0	8.0	29.0
24 months	10.8	1.3	3.0	7.0	59.0

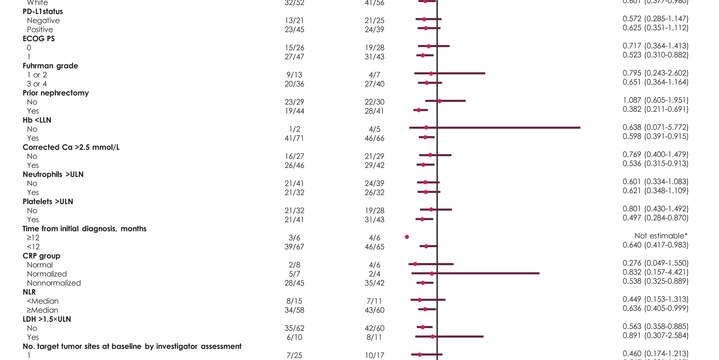
A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **Hb**, hemoglobin; **IMDC**, International Metastatic RCC Database Consortium; **LLN**, lower limit of normal; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma; **TNM**, tumor-node-metastasis; **ULN**, upper limit of normal.
*≥2 mo from initial diagnosis to randomization, Ca >2.5 mmol/L, Hb <LLN, neutrophil >ULN, platelet >ULN. †Investigator assessment. ‡Minimum CRP value by 6 weeks' maximum CRP value around 6, 12, 18, and 24 months (±30 days).

Supplemental Table 3. CRP levels over time with A+Ax treatment in patients with poor IMDC risk

	PFS ≥24 and OS ≥30 months (n=7)			PFS <24 months (n=26)		
Time*	n	CRP level, median (range), mg/L	CRP change from baseline, median (range), %	n	CRP level, median (range), mg/L	CRP change from baseline, median (range), %
Patients with 3 IMDC risk factors						
Baseline	5	7.0 (2.0-80.1)		23	73.0 (7.5-169.0)	
6 weeks	6	6.0 (1.0-206.0)	5 −42.9 (−89.6 to 100.0)	24	36.1 (4.0-98.1)	22 −47.9 (−91.0 to 332.4)
6 months	7	5.9 (4.0-90.4)	5 −38.5 (−93.8 to 140.0)	20	24.1 (2.5-225.6)	18 −49.1 (−94.6 to 200.0)
12 months	7	2.2 (1.6-6.0)	5 −71.4 (−93.5 to 10.0)	11	19.4 (2.8-237.0)	10 27.8 (−93.7 to 481.9)
18 months	6	6.9 (1.7-28.4)	4 101.8 (−82.3 to 1,320.0)	5	25.7 (2.1-181.0)	5 −57.4 (−78.6 to 1,545.5)
24 months	6	5.0 (1.3-26.9)	4 −71.4 to 180.2)	5	19.5 (6.0-27.0)	5 9.3 (−94.1 to 145.5)
	PFS ≥24 and OS ≥30 months (n=5)			**PFS <24 months (n=20)**		
Time*	n	CRP level, median (range), mg/L	CRP change from baseline, median (range), %	n	CRP level, median (range), mg/L	CRP change from baseline, median (range), %
Patients with 4-6 IMDC risk factors						
Baseline	5	200.0 (136.0-266.3)		20	85.6 (7.0-316.0)	
6 weeks	5	35.0 (3.5-54.0)	5 −79.5 (−98.6 to −71.7)	18	38.6 (0.6-457.0)	18 −52.4 (−95.1 to 1,042.5)
6 months	4	17.4 (4.0-22.0)	4 −91.7 (−97.9 to −85.3)	11	35.0 (7.8-533.0)	11 −68.0 (−89.7 to 1,232.5)
12 months	5	4.0 (2.1-25.0)	5 −97.8 (−99.1 to −87.5)	7	98.8 (2.4-595.0)	7 50.0 (−97.5 to 1,842.9)
18 months	5	7.4 (1.1-29.0)	5 −97.2 (−99.5 to −85.5)	6	51.9 (0.7-169.6)	6 −17.2 (−99.5 to 2,057.1)
24 months	5	7.0 (1.3-59.0)	5 −96.3 (−99.5 to −70.5)	4	12.8 (0.9-81.0)	4 −70.6 (−99.4 to 1,057.1)

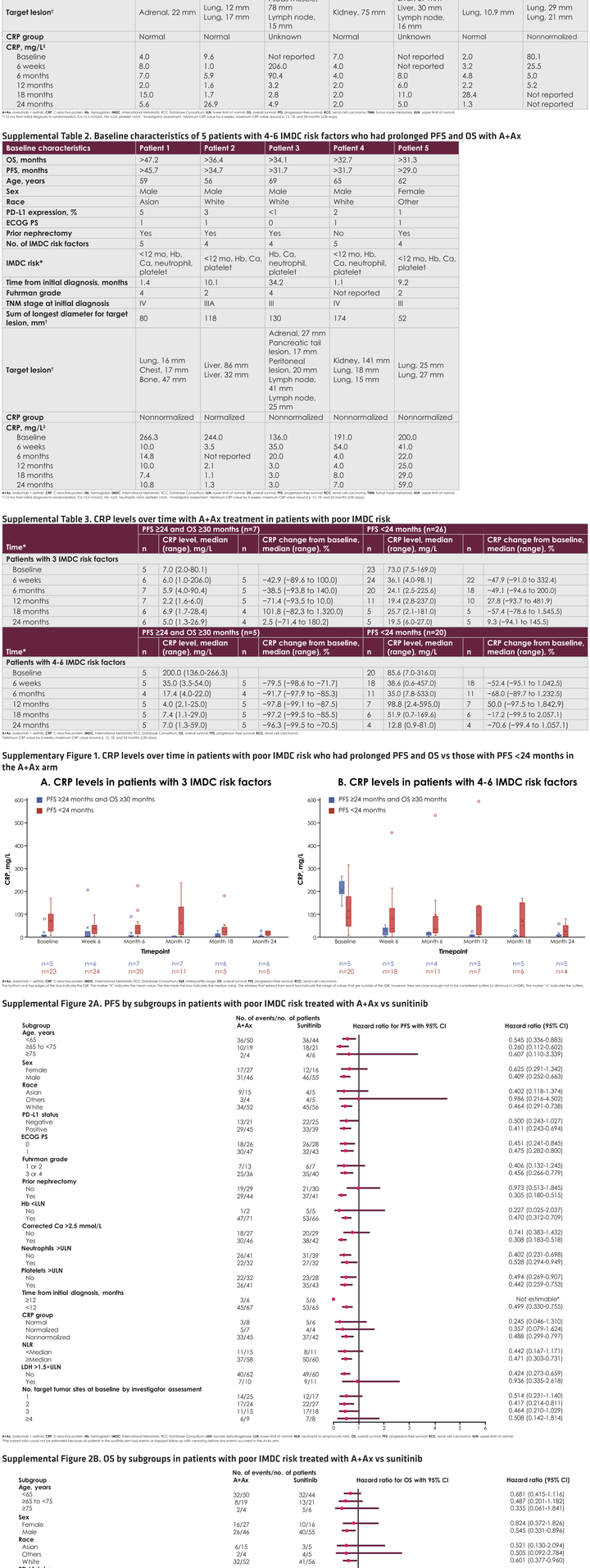
A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **IMDC**, International Metastatic RCC Database Consortium; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma.
*Minimum CRP value by 6 weeks' maximum CRP value around 6, 12, 18, and 24 months (±30 days).

Supplementary Figure 1. CRP levels over time in patients with poor IMDC risk who had prolonged PFS and OS vs those with PFS <24 months in the A+Ax arm



A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **IMDC**, International Metastatic RCC Database Consortium; **IQR**, interquartile range; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma.
The bottom and top edges of the box indicate the IQR. The marker "X" indicates the mean value. The line inside the box indicates the median value. The whiskers that extend from each box indicate the range of values that are outside of the IQR; however, they are close enough not to be considered outliers (a distance ≥1.5×IQR). The marker "o" indicates the outliers.

Supplemental Figure 2A. PFS by subgroups in patients with poor IMDC risk treated with A+Ax vs sunitinib



A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **Hb**, hemoglobin; **IMDC**, International Metastatic RCC Database Consortium; **LDH**, lactate dehydrogenase; **LLN**, lower limit of normal; **NLR**, neutrophil to lymphocyte ratio; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma; **ULN**, upper limit of normal.
*The hazard ratio could not be estimated because all patients in the sunitinib arm had events or stopped follow-up with censoring before any events occurred in the A+Ax arm.

Supplemental Figure 2B. OS by subgroups in patients with poor IMDC risk treated with A+Ax vs sunitinib

A+Ax, avelumab + axitinib; **CRP**, C-reactive protein; **Hb**, hemoglobin; **IMDC**, International Metastatic RCC Database Consortium; **LDH**, lactate dehydrogenase; **LLN**, lower limit of normal; **NLR**, neutrophil to lymphocyte ratio; **OS**, overall survival; **PFS**, progression-free survival; **RCC**, renal cell carcinoma; **ULN**, upper limit of normal.
*The hazard ratio could not be estimated because all patients in the sunitinib arm had events or stopped follow-up with censoring before any events occurred in the A+Ax arm.

Please note that this summary only contains information from the full scientific abstract

C-reactive protein may predict treatment results with avelumab + axitinib in people with poor-risk advanced renal cell cancer

JAVELIN

View scientific abstract

The full title of this abstract is: C-reactive protein (CRP) as a predictive marker for outcomes with avelumab + axitinib (A + Ax) in patients with poor-risk advanced renal cell carcinoma (aRCC): Exploratory analysis from JAVELIN Renal 101

Please note this summary only contains information from the scientific abstract

View scientific abstract

Date of summary: February 2023

For more information on this study, go to: https://clinicaltrials.gov/ct2/show/NCT02684006

Pronunciations

Medical terms pronunciations

Avelumab <a-VEL-yoo-mab> **Axitinib** <ax-IT-ih-nib> **Sunitinib** <soo-NIT-in-ib>

Key takeaways

What are the key takeaways from this summary?

- In the JAVELIN Renal 101 study, people with advanced renal cell cancer (aRCC) who were treated with avelumab + axitinib lived longer without their cancer getting worse than people treated with sunitinib
- In this follow-up study, researchers wanted to explore factors that might predict how well avelumab + axitinib works in people with poor-risk aRCC
  - People who have poor-risk disease tend to live for a shorter time than people who have favorable-risk disease
- Researchers found that levels of C-reactive protein (CRP) predicted how well avelumab + axitinib worked in people with poor-risk aRCC
  - CRP is a protein found in the blood. Its levels can increase when someone has a disease or an injury. CRP levels can also change during treatment
- People who had a low CRP level before treatment or whose CRP level became low during treatment seemed to have a longer time without their cancer getting worse than people whose CRP level stayed high
  - However, this was an exploratory research, and more studies are needed to confirm the findings

Background

What did this study look at?

What is advanced renal cell cancer?

- Renal cell cancer (RCC) is the most common type of kidney cancer
- In RCC, cancer cells form in the tubes of the kidney that filter and clean the blood
- RCC is called advanced RCC (aRCC) when it has spread outside the kidneys to other parts of the body, such as bones, lungs, and the liver

What are avelumab and axitinib?

These are medicines used to treat people with aRCC

Avelumab is a type of immunotherapy. Immunotherapy can help the body's immune system find and destroy cancer cells. Avelumab is given as a drip (infusion) into a vein for about an hour once every 2 weeks

Axitinib can help slow down the growth of cancer cells. It does this by stopping the cancer from making new blood vessels. Axitinib is a tablet taken by mouth twice each day

Based on results from the JAVELIN Renal 101 clinical trial, use of avelumab + axitinib in combination was approved as a treatment for people with aRCC

What is the JAVELIN Renal 101 clinical trial?

- The JAVELIN Renal 101 clinical trial is looking at people with aRCC in various countries
- People taking part were randomly put into 2 treatment groups:
  - Group 1 received avelumab + axitinib
  - Group 2 received sunitinib, a standard treatment at the time of the study
- On average, people treated with avelumab + axitinib had a better response and lived longer without their cancer getting worse than people treated with sunitinib

What are risk factors in people with aRCC?

- Certain characteristics can help predict how long someone with aRCC will live with treatment. These characteristics are called risk factors
  - Risk factors include levels of certain cells or minerals found in the blood and someone's ability to be active
- By counting the number of risk factors, researchers can find out if someone's disease is favorable, intermediate, or poor risk
  - People with 0 to 2 risk factors have either favorable- or intermediate-risk disease
  - People with 3 or more risk factors have poor-risk disease
- People with poor-risk disease tend to live for a shorter time than people with favorable- or intermediate-risk disease
- Some treatments work better in people with favorable-, intermediate-, or poor-risk disease
  - Knowing the disease's risk level can help doctors choose the best treatment
- In the JAVELIN Renal 101 study, researchers found that avelumab + axitinib worked better than sunitinib in people with aRCC, regardless of the number of risk factors

What is C-reactive protein (CRP)?

- CRP is a protein found in the blood
- CRP levels can increase when someone has a disease or an injury. CPR levels can also change during treatment
- In a follow-up study to JAVELIN Renal 101, researchers found that CRP levels in people with aRCC might be related to how well treatment with avelumab + axitinib or sunitinib was working

What did the researchers want to find out?

Researchers wanted to find out if CRP levels in the blood could predict how well avelumab + axitinib might work in people with poor-risk aRCC

Study design

What happened during the study?

Who took part in this study?

- Researchers looked at people with poor-risk disease before they started treatment with avelumab + axitinib in the JAVELIN Renal 101 clinical trial. People with favorable- or intermediate-risk disease were not included in this study
- People with poor-risk disease were grouped based on how many risk factors they had and how long they lived after starting treatment without their cancer getting worse

Aims of this summary

What did the researchers look at?

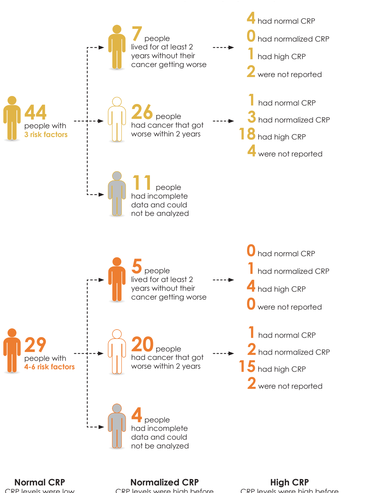
Researchers looked at the following:

- How long people lived without their cancer getting worse
- How CRP levels changed over time
- If CRP levels were related to how long people lived with treatment

Results

What were the results of the study?

How were CRP levels related to treatment response in people with poor-risk disease?



Normal CRP
CRP levels were low before treatment

Normalized CRP
CRP levels were high before treatment and decreased to low during treatment

High CRP
CRP levels were high before and during treatment

How did CRP levels change over time in people with poor-risk disease?

In people with 3 risk factors who lived for more than 2 years without their cancer getting worse, CRP levels were low before and during 2 years of treatment

In people with 4-6 risk factors who lived for more than 2 years without their cancer getting worse, CRP levels were high before treatment but mostly decreased during the first 6 weeks of treatment. CRP levels then remained low for 2 years

In people whose cancer got worse within 2 years, CRP levels were high before and during treatment

Conclusions

What were the main conclusions reported by the researchers?

- In people with poor-risk aRCC, a low CRP level before starting treatment with avelumab + axitinib, or a decrease in CRP levels during treatment, might predict which patients will live for a longer time without their cancer getting worse
- However, it is possible that CRP levels might change for other reasons

Disclaimers

Avelumab plus axitinib therapy is approved to treat the condition that is discussed in this summary. This summary reports the results of a single study. The results of this study may differ from those of other studies. Health professionals should make treatment decisions based on all available evidence, not on the results of a single study. This summary reports the results of a planned interim analysis of the study. This means that the study has not yet been completed. This study described is still ongoing, therefore the final outcomes of this study may differ from the outcomes described in this summary

Study sponsors

Who sponsored this study?

Pfizer
235 East 42nd Street
New York, NY 10017, USA
Phone (United States): +1 212-733-2323

the healthcare business of Merck KGaA, Darmstadt, Germany
Frankfurter Strasse 250
Darmstadt, 64293, Germany
Phone (Germany): +49 6151 720

The sponsors would like to thank all of the people who took part in this study

More information

Where can I find more information?

For more information on this study, please visit:
2023 ASCO GenitoUrinary Cancers Symposium Scientific Abstract
https://clinicaltrials.gov/ct2/show/NCT02684006

For more information on clinical studies in general, please visit:
https://www.clinicaltrials.gov/ct2/about-studies/learn
https://www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html

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