안전에 Think Safety
가치를 더하다 Build Value

Does an alternative sunitinib dosing schedule really improve survival outcomes over a conventional dosing schedule in patients with metastatic renal cell carcinoma? An updated systematic review and meta-analysis

Doo Yong Chung[1], Beom-Yong Rho[1], Sang Min Yoon[1], Tack Lee[1],J i Kan Ryu[1], Dong Hyuk Kang[1], Jong Won Kim[2], Do Kyung Kim[3], Joo Yong Lee[4] ,Chang Hee Hong[2], Kang Su Cho[2]

1. Department of Urology, Inha University School of Medicine, Incheon, Korea[1]
2. Department of Urology, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, Korea[2]
3. Department of Urology, Soonchunhyang University Seoul Hospital, Soonchunhyang University Medical College, Seoul, Korea[3]
4. Department of Urology, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea[4]

인하대병원 INHA UNIV. HOSPITAL

안전을 향한 생각이 바른 가치를 만듭니다

1. Background

Think Safety
Build Value+

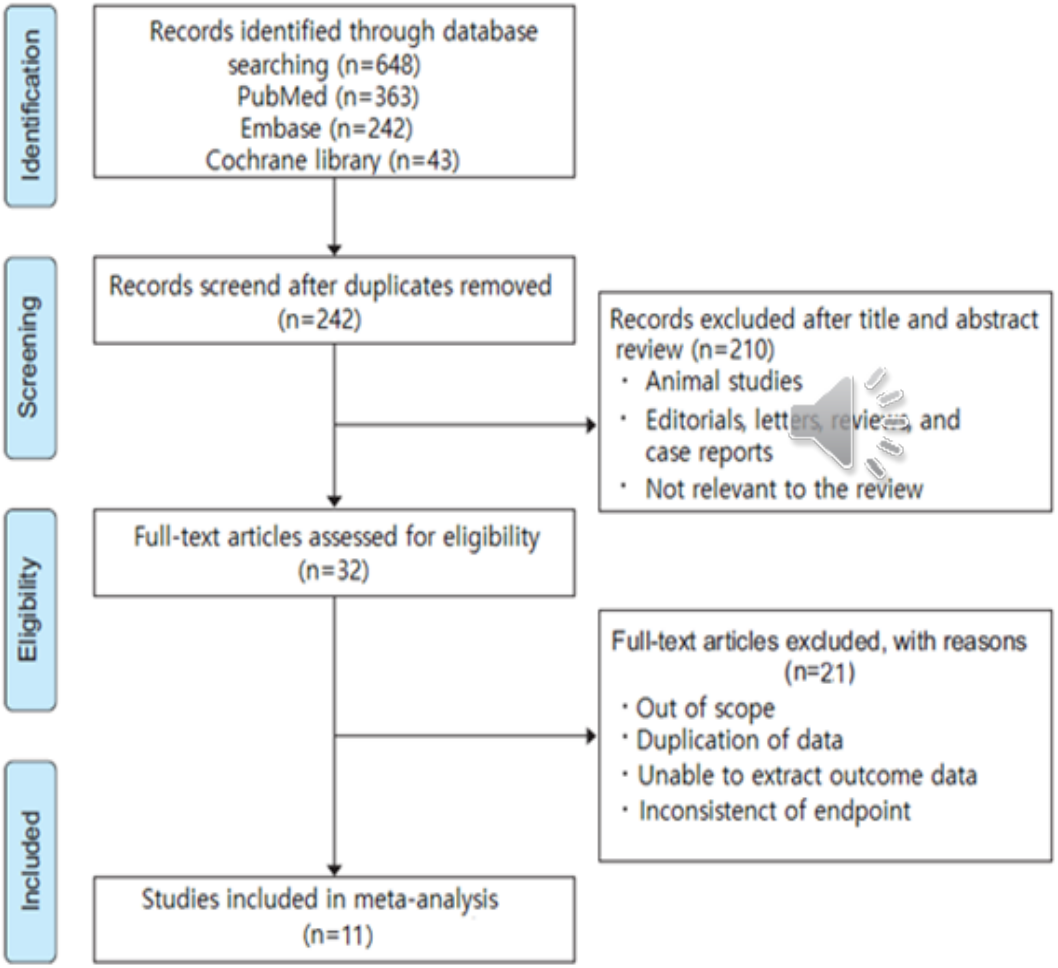
1. It is well known that sunitinib has a good oncological effect in patients with metastatic kidney cancer. It is still a popular drug in patients with metastatic renal cell carcinoma.

2. However, Treatment-related adverse events (AEs) can obfuscate the maintenance of a conventional schedule (4/2) of sunitinib in patients with metastatic renal cell carcinoma.

3. Therefore, several alternative schedules have been introduced, of which 2/1 schedule is the most used. However, large-scale RCT studies on 2/1 schedules compared to conventional schedules have not been conducted.

4. Therefore, we conducted a meta-analysis about comparison of adverse events and oncological outcomes according to sunitinib dosing schedules in patients with metastatic renal cell carcinoma.

2. Materials and Methods



1. Systematic literature searches were conducted in PubMed/Embase and Cochrane library for all studies that examined dosing schedule of sunitinib for mRCCa.

2. We performed this study according to the Preferred Reported Items for Systematic Reviews and Meta-analysis guidelines.

3. Endpoints were progression-free (PFS), overall (OS) survival and adverse events rate.

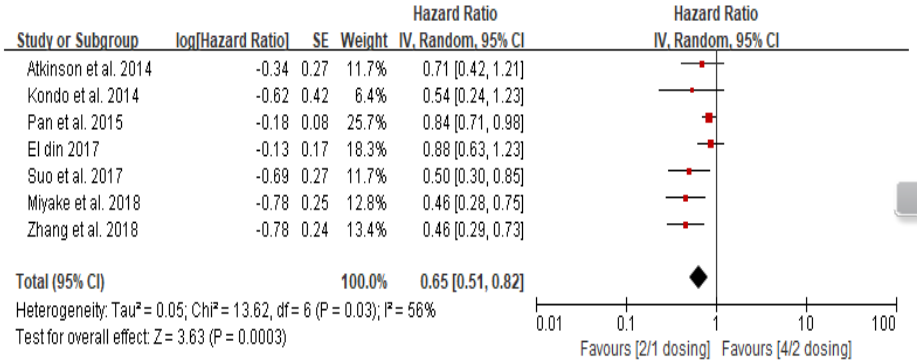
3. Results

*Progression-free survival (PFS)

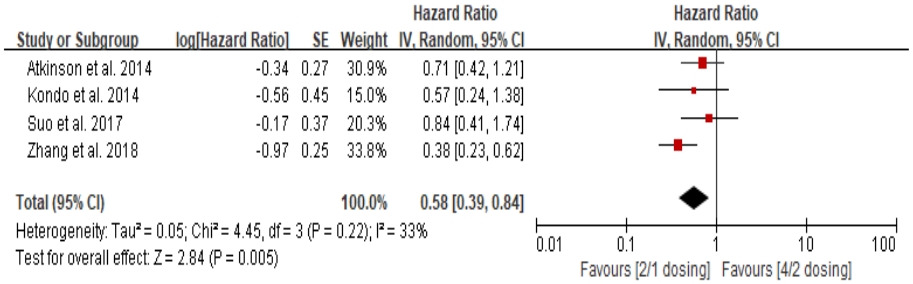
*Overall-survival (OS)

A. Progression-free survival

(1) Unadjusted HRs

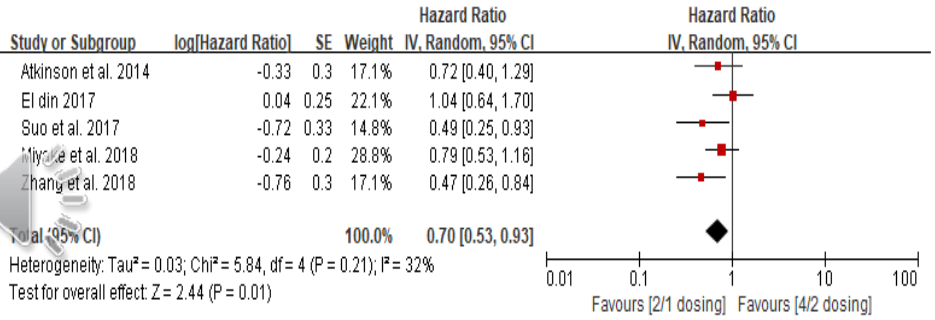


(2) Adjusted HRs

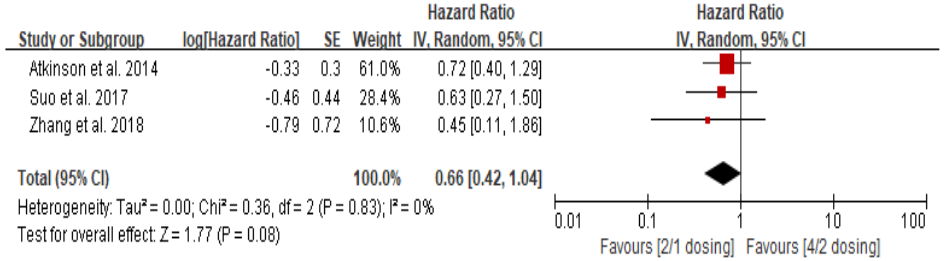


B. Overall survival

(1) Unadjusted HRs



(2) Adjusted HRs



3. Results

Adverse events

* Statistically significant value

Adverse events	No. studies	Dosing schedule	No. of Patients	RR (95% CI)	P-value	I^2 (%)	P_H-value
Laboratory abnormalities							
Hypothyroidism*	9	2/1 4/2	309 513	0.84 (0.72-0.99)	0.04	0	0.53
Leukopenia*	8	2/1 4/2	268 205	0.79 (0.63-0.99)	0.04	60	0.01
Anemia	7	2/1 4/2	238 275	0.86 (0.72-1.03)	0.10	27	0.22
Thrombocytopenia	9	2/1 4/2	309 513	0.89 (0.77-1.03)	0.11	62	0.007
Liver dysfunction	5	2/1 4/2	161 180	0.88 (0.70-1.12)	0.31	0	0.84
Gastrointestinal adverse events							
Anorexia	5	2/1 4/2	159 326	0.70 (0.47-1.04)	0.08	38	0.17
Nausea	3	2/1 4/2	109 274	0.77 (0.42-1.45)	0.41	38	0.2
Vomiting	2	2/1 4/2	79 244	0.62 (0.24-1.62)	0.33	0	0
Diarrhea*	8	2/1 4/2	309 513	0.62 (0.44-0.89)	0.010	62	0.007
Dysgeusia*	3	2/1 4/2	112 275	0.6 (0.39-0.92)	0.02	0	0.68
Other adverse events							
Hand-foot syndrome*	9	2/1 4/2	309 513	0.68 (0.58-0.81)	<0.00001	25	0.22
Hypertension*	9	2/1 4/2	309 513	0.70 (0.58-0.84)	0.0002	16	0.30
Fatigue*	9	2/1 4/2	309 513	0.69 (0.60-0.81)	<0.00001	29	0.19
Stomatitis*	8	2/1 4/2	262 451	0.70 (0.57-0.86)	0.0006	10	0.35
Skin color change*	4	2/1 4/2	180 203	0.70 (0.55-0.89)	0.004	0	0.98

4. Conclusions

1. Our meta-analysis suggests that alternative 2/1 sunitinib dosing schedule may have better PFS than conventional 4/2 sunitinib schedule. However, its level of evidence was very low, the interpretation of this result should be cautious.

2. Moreover, the 2/1 schedule was beneficial for reducing the incidence of AEs. Accordingly, the 2/1 sunitinib dosing schedule holds promise as an alternative means of reducing AEs, maintaining patient QOL and prolonging treatment.

3. We also believe that prospective large-scale studies of a 2/1 alternative schedule that demonstrate these advantages are needed.

Thank you for your attention