

# STEROID AVOIDANCE OR WITHDRAWAL FOR PANCREAS AND PANCREAS WITH KIDNEY TRANSPLANT RECIPIENTS

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## BACKGROUND

- Pancreas or kidney-pancreas transplantation improve outcomes in diabetic patients with kidney failure, but chronic steroid treatment carries risks of adverse events.
- We **aimed** to systematically assess safety and efficacy of: steroid withdrawal (SW) or avoidance (SA) versus continuing steroid maintenance in patients receiving pancreas transplant alone (PTA), simultaneous pancreas kidney transplantation (SPK) or pancreas after kidney transplantation (PAK) with sequential adjustment for a number of covariates.

## METHODS

### SEARCH METHODS

- We searched the Cochrane Renal Group's Specialised Register using relevant search terms.

### SELECTION CRITERIA

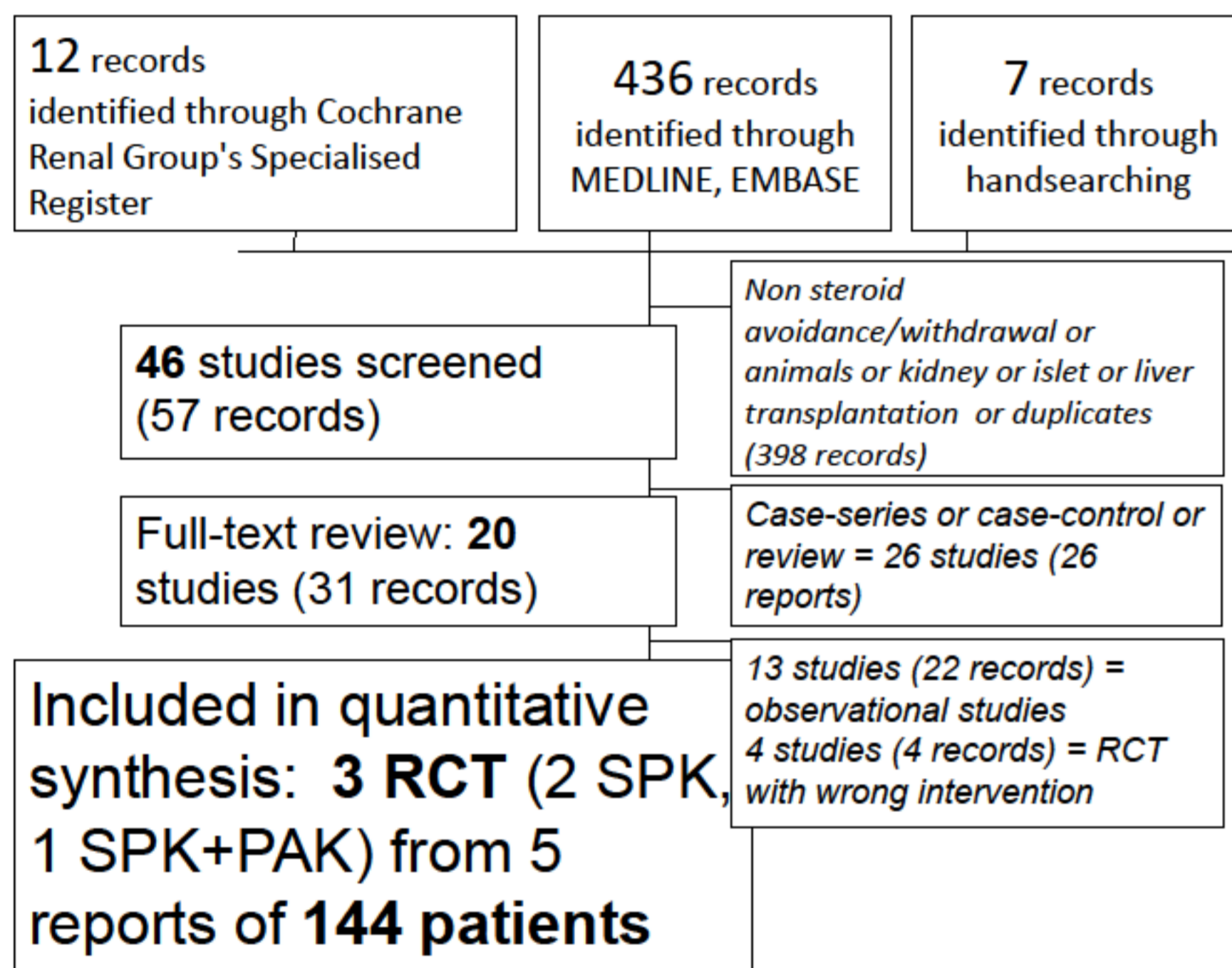
- We included:
  - randomised controlled trials (RCTs)
  - cohort studies
- of steroid use of less than 14 days (SA) or versus steroid use during more than 14 days (SW) in PTA, SPK or PAK recipients.

### DATA COLLECTION AND ANALYSIS

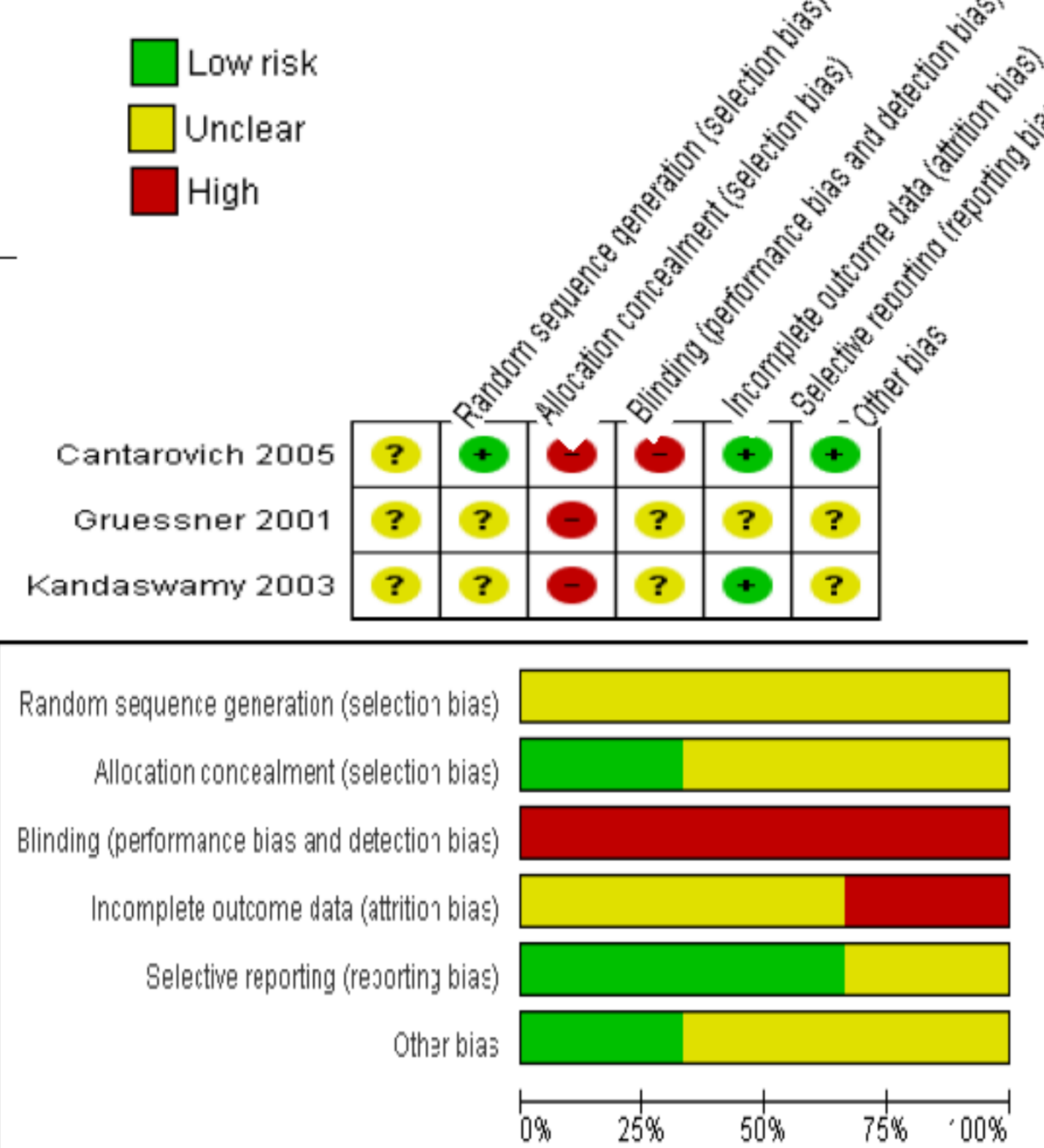
- Two investigators independently identified studies for inclusion, critically appraised methodology and abstracted study data.
- Metaanalyses used random effects with results expressed as risk ratios (RR) or mean difference (MD) with 95% confidence interval (CI).
- Cohort studies were not meta-analysed, but their findings summarised descriptively

## RESULTS

### DESCRIPTION OF STUDIES:



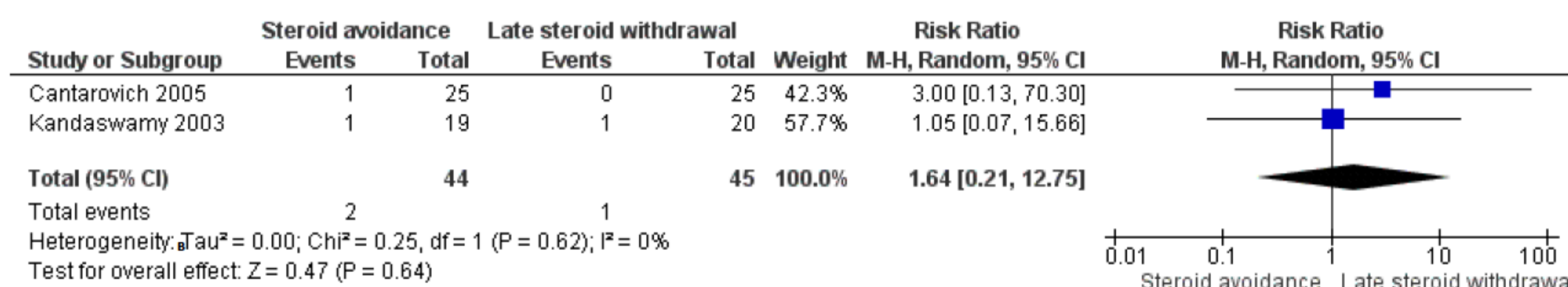
### RISK OF BIAS OF INCLUDED STUDIES:



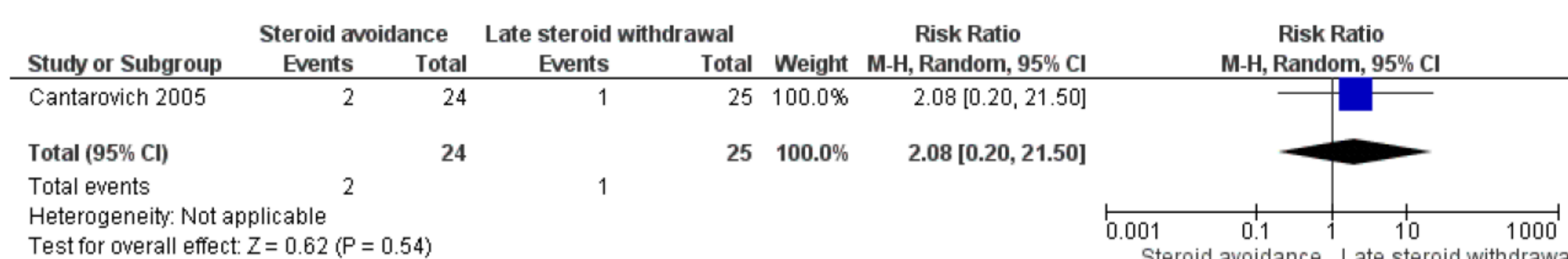
### EFFECTS OF INTERVENTIONS:

Forest plots with the 3 main outcomes in the intervention steroid avoidance versus late steroid withdrawal (after day 14 post-transplant):

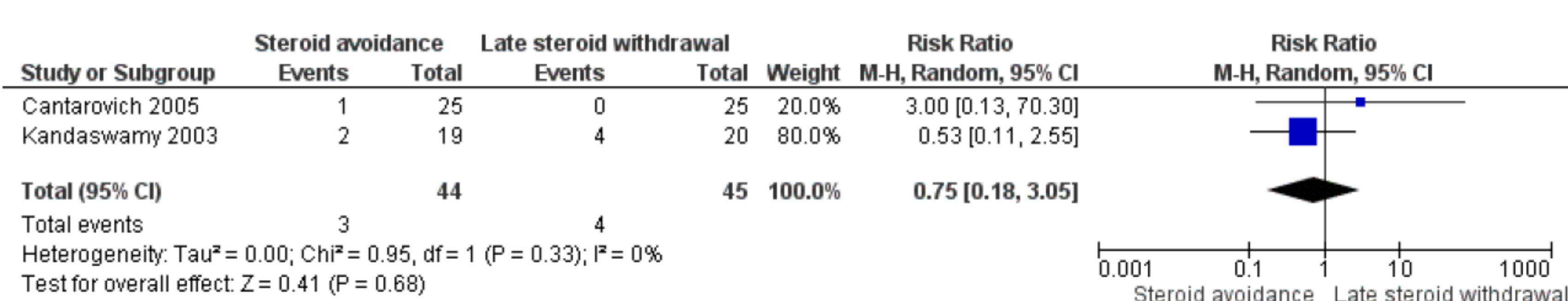
#### Death at 1 year



#### Kidney acute rejection at 1 year



#### Graft failure (uncensored for death) at 1 year



### Outcomes reported in the RCT

	Cantarovich 2005					Gruessner 2001					Kandaswamy 2003						
	3 m	6 m	1 y	2 y	3 y	3 m	6 m	1 y	2 y	3 y	3 m	6 m	1 y	2 y	3 y	4 y	5 y
Death																	
Graft Rejection	KIDNEY	Acute rejection															
		Biopsy-proven															
Graft Loss	PANCREAS	Acute rejection															
		Biopsy-proven															
Laboratory findings	KIDNEY	Censored for death															
		Non censored for death															
Clinical outcomes	PANCREAS	Censored for death															
		Non censored for death															
Laboratory findings	KIDNEY	Serum creatinine (mg/dL)															
		Creatinine clearance (mL/min)															
Laboratory findings	KIDNEY	Worsening proteinuria (increase > 50%)															
		Total (mg/dL)															
Laboratory findings	KIDNEY	LDL (mg/dL)															
		HDL (mg/dL)															
Laboratory findings	KIDNEY	Triglycerides (mg/dL)															
		HbA1C (%)															
Clinical outcomes	KIDNEY	Mean blood pressure (mmHg)															
		n antihypertensive drugs															
Clinical outcomes	KIDNEY	Bone density (% of variation)															
		Weight gain (Kg)															

## SUMMARY

- Evidence for the benefits and harms of SW in pancreas or kidney-pancreas transplantation is sparse with only three RCT of 144 patients identified.
- These RCTs showed no difference in mortality, graft survival or rejection in steroid-sparing strategies but firm conclusions are not possible.
- The 13 observational studies findings concur with the evidences found in the RCTs.
- There is not enough evidence to recommend steroid withdrawal in pancreas-kidney transplantation, although the small number of studies showed no differences between groups.

