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Introduction & Objectives: To assess the rates and types of complications in MRI/US transrectal guided biopsies followed by a systematic 12 core biopsy.

Materials & Methods: We evaluated a total of 506 patients who underwent transrectal 18-gauge needle prostate biopsy. All patients had systematic 12-core prostate biopsy with additional samples taken from MRI suspicious lesions using MRI/US fusion guidance. All patients were given prophylactic antibiotics, preferably Quinolones, with Trimethoprim-Sulphamethoxazole given to patients with Quinolone allergy. Anticoagulants were stopped at least a week before biopsy, in ambiguous cases, laboratory tests of parameters of hemocoagulation were done before biopsy. We only included the rates of infection, retention and severe hematuria, as symptoms like hemospermia are often inconsistently reported by patients and do not present a medical problem. All complications we graded using the Clavien-Dindo (CD) scale.

Results: A total of 506 patients were evaluated with an average age of 63 years (31 – 91), mean PSA of 8,28ng/ml (0,52 – 75,0). On average 2,7 (0-9) MRI/US guided cores were performed prior to the 12-core systematic biopsy. We registered a total of 17 complications (3,36 %), comprising 11 CD1, 5 CD2 and 1 CD4 grade complications. Complication rates and types of complications are presented in the table below.

	Overall		Infections		Urinary retention		Hematuria	
	No. of patients	Rate (%)	No. of patients	Rate (%)	No. of patients	Rate (%)	No. of patients	Rate (%)
Complications	17	3.36	7	1.38	6	1.18	4	0.79
CD 1	11	2.17	1	0.19	6	1.18	4	0.79
CD 2	5	0.99	5	0.99	0	0	0	0
CD 3	0	0	0	0	0	0	0	0
CD 4	1	0.19	1	0.19	0	0	0	0
CD 5	0	0	0	0	0	0	0	0

Conclusions: Our analysis of MRI/US target biopsy followed by systematic 12 core biopsy show low overall complications rates. Most of the complications belong to Clavien-Dindo groups 1 or 2, severe complications are rare. Results are comparable to those in recent literature.

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