

BLOOD GROUPS IN PATIENTS WITH MALIGNANT DISEASES

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INTRODUCTION

Many associations between blood group frequency and disease have been reported, most of the early studies can be criticized on technical and statistical grounds, and few have been confirmed. Numerous studies have confirmed that group A people have about a 20 percent greater chance of developing cancer of the stomach than group O people, while group O people have a 20 percent greater chance of developing duodenal ulcer than people of other ABO types.

PATIENTS AND METHODS

The study deals with ABO and Rh D blood system in all patients treated in the Central Institute for tumors in the course of 14 years (1st January 1971 - 31st December 1985.). During this period 12,896 patients divided due to tumor localization were treated. The majority were 2984 female patients treated for breast malignant tumor, most of whom had breast scirosum carcinoma. The second group of 2957 patients had adenocarcinoma localized in stomach and colon. The third group consisted of patients with planocellular carcinoma of cavi oris, respiratory system and esophagus. The fourth group of 1752 patients had malignant tumor of uterus and ovary. The fifth group of 1689 patients were treated for malignant tumor of central nervous system and medula spinalis. The sixth group of 440 patients had sarcoma. Hemoblastosis included patients with Morbus Hodgkin, non Hodgkin lymphoma, different types of leukemia and plasmocytomas. This group consisted of 389 patients. The last were 240 patients treated for malignant melanoma. Blood groups ABO and Rh D were determined in a routine search. The control group consisted of 29,983 healthy Yugoslav soldiers.

RESULTS

All the patients were compared with the healthy control group. Statistical evaluation showed greater frequency of patients with O blood group and Rh D negativity in the group of female patients with breast malignant tumor. The second group which consisted of 2957 patients with gastrointestinal tumors when compared with 29,983 healthy persons showed greater number of patients with Rh D negativity. / **Table 1. and 2./**

Table 1. FREQUENCY OF ABO BLOOD GROUPS

MALIGNANT DISEASES	TESTED PATIENTS	A	B	AB	O	RELATIVE INCIDENCE A/O	RELATIVE INCIDENCE B/O	χ^2 TEST ⁺	
BREAST	No. 2,984 % 100	1,172 39.28	524 17.56	218 7.30	1,070 35.86	0,8897	6.951	1.0059	0.0099
GASTROINTESTINAL	No. 2,957 % 100	1,255 42.44	498 16.84	206 6.96	998 33.76	1.0214	0.2297	1.0247	0.1828
RESPIRATORY SYSTEM	No. 2,445 % 100	1,000 40.90	411 16.81	198 8.10	836 34.19	0.9716	0.3495	1.010	0.0268
GYNAECOLOGY	No. 1,752 % 100	747 42.64	304 17.35	108 6.16	593 33.85	1.0231	0.1645	1.0527	0.5052
CENTRAL NERVOUS SYSTEM	No. 1,689 % 100	671 39.73	313 18.53	129 7.64	576 34.10	0.9462	0.8971	1.1158	2.3027
SARCOMAS	No. 440 % 100	178 40.45	91 20.68	27 6.14	144 32.73	1.004	0.014	1.2976	3.7421
MALIGNANT HEMOPATHIES	No. 389 % 100	154 39.59	59 15.17	30 7.71	146 37.53	0.8568	1.7807	0.8298	1.4754
MELANOMA MALIGNUM	No. 240 % 100	106 44.17	34 14.17	19 7.91	81 33.75	1.0629	0.1918	0.8442	0.7259
CONTROL GROUP	No. 29,983 % 100	12,582 41.96	4,977 16.60	2,204 7.35	10,220 34.09				

+ hi² test

Table 2. FREQUENCY OF Rh (D) BLOOD GROUP

MALIGNANT DISEASES	TESTED PATIENTS	Rh D BLOOD GROUP POSITIVE	Rh D BLOOD GROUP NEGATIVE	RELATIVE INCIDENCE	χ^2 TEST +
BREAST	No. 2.984 % 100	2.451 82.14	533 17.86	0.8592	9.0906
GASTROINTESTINAL	No. 2.957 % 100	2.436 82.38	521 17.62	0.8736	7.0780
RESPIRATORY SYSTEM	No. 2.445 % 100	2.057 84.13	388 15.87	0.9905	0.0274
GYNAECOLOGY					
CENTRAL NERVOUS SYSTEM	No. 1.752 % 100	1.465 83.62	287 16.38	0.9537	0.5086
	No. 1.689 % 100	1.433 84.84	256 15.16	1.0458	0.4185
SARCOMAS	No. 440 % 100	363 82.50	77 17.50	0.8808	1.0234
MALIGNANT HEMOPATHIES	No. 389 % 100	318 82.50	71 17.50	0.8368	1.8158
MELANOMA MALIGNUM	No. 240 % 100	195 81.25	45 18.75	0.8096	1.6163
CONTROL GROUP	No. 29.983 % 100	25.263 84.25	4.720 15.74		

+ hi^2 test

Other groups showed no significant frequency of blood groups and single malignant illnesses.

CONCLUSION

When comparing ABO blood groups and Rh D system between groups of patients treated for malignant tumors of different localizations and healthy persons, the following results were gained:

- low frequency of A blood group, associated with high frequency of O blood group, and high frequency of Rh (D) negativity, established in patients with breast malign tumour, were statistically significant.
- High frequency of Rh (D) negativity found in patients with gastrointestinal malignancy, was also statistically significant.
- High frequency of B blood group found in patients with sarcomas was not significant,
- In groups of patients with malignant hemopathies, melanoma malignum, respiratory system malignancies and gynaecologic malignancies were not found any statistically significant differences.

The analysis of blood groups of patients with narrower localization, like for example, only patients with stomach tumor, or colon tumor, would probable give different results and this exactly is the major task of our next searches. This problem **demands** further searches.

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