Laparoscopic fluorescence photodetection of peritoneal carcinoma in gynecological patients

(preliminary report)

N.E. Bondarev[1], A.L. Major[2], G.M. Manikhas[1], A.S. Lisyanskaya[1]

[1]Department of Oncogynecology, St. Petersburg City Oncology Hospital, Russia
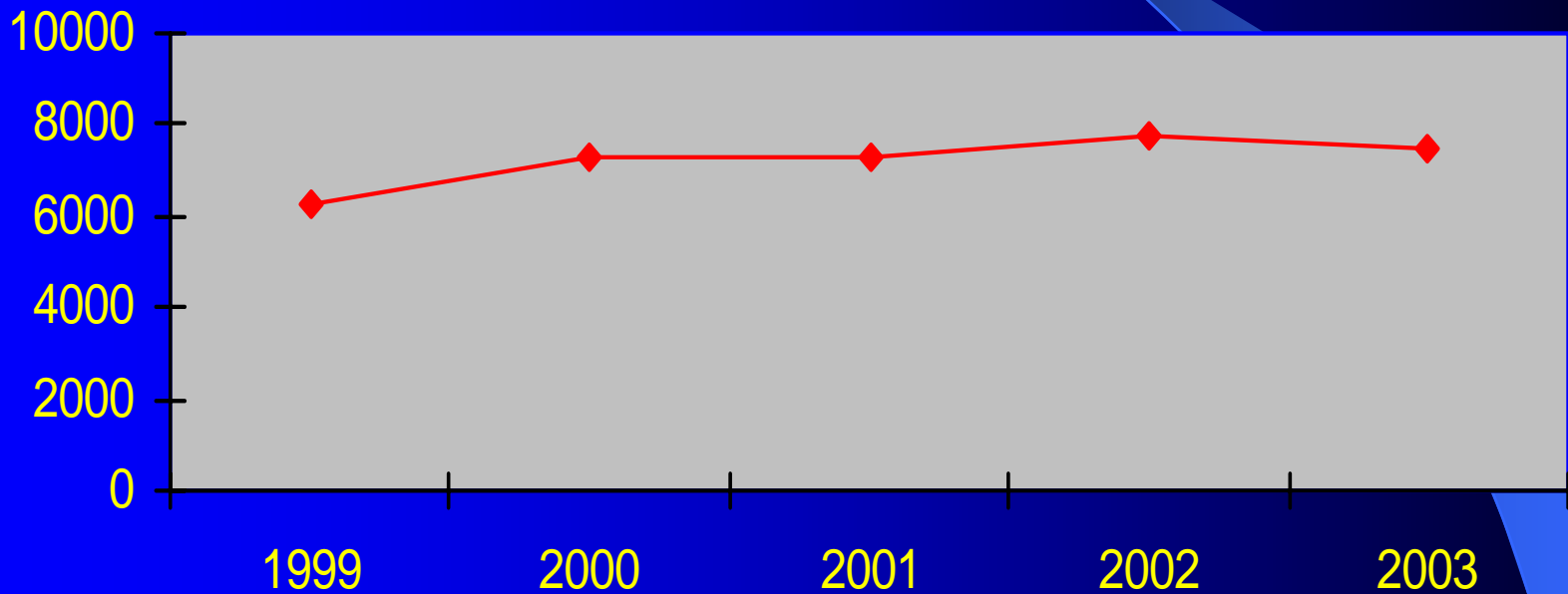[2]Geneva Foundation for Medical Education and Research, Geneva, Switzerland

**Training in Reproductive Health Research
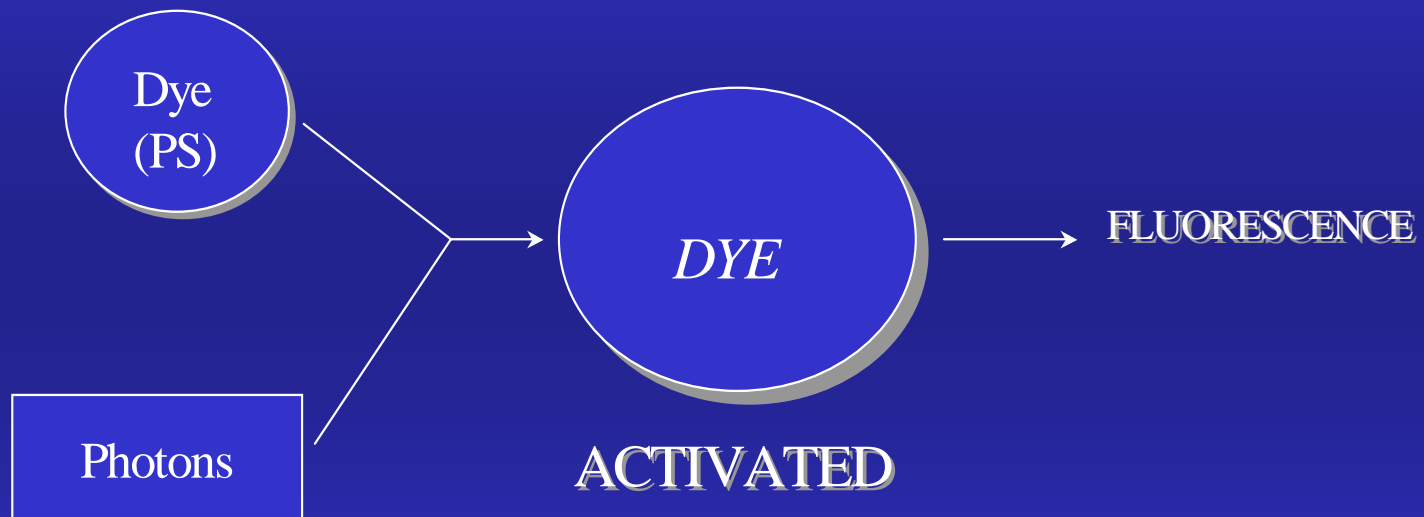Geneva 2005**

GFMER Scholarship

Deaths(#), females, Malignant neoplasm of ovary Russian Federation

PHOTODYNAMIC DETECTION

Dye (PS)

Photons

DYE

ACTIVATED

FLUORESCENCE

The aims of the study

- to determine the diagnostic value of laparoscopic fluorescence photodetection in case of early recurrence of peritoneal carcinoma in gynecological patients and its influence on the survival

- to evaluate the efficacy of photodetection in case of ovarian mass for accurate disease staging

photosensitizers - ALA, Hexyl-ALA

Patient Characteristics

Characteristics	No. of patients (6)
Mean age	51 (range 39-67 yrs)
Tumor type:	
Epithelial	6
FIGO Stage at initial surgery	
I	1
II	-
III	3
IV	1
Primary adjuvant chemotherapy	
Surgery and platinum-based chemotherapy	5
Surgery alone	1

Indications for Procedures

Procedures	No. of patients
Second look	4
Third look	2
Monolateral ovarian tumor	1
Bilateral ovarian tumors	1
Increasing CA 125 level > 35 U/ml	8

Distribution of Patients due to used Photosensitizer

Cases	ALA (n. of pat.)	Hexyl-ALA (n. of pat.)
Second look	2	2
Third look	2	-
Monolateral ovarian tumor	1	-
Bilateral ovarian tumors	1	-

Histological Prove of Findings due to Photosensitizer

Cases	ALA (n. patients)		Hexyl –ALA (n. patients)	
	positive	negative	positive	negative
Suspected cancer recurrence	2	2	0	2
Suspected ovarian cancer	1	1	-	-

Photodymanic Detection of Peritoneal Carcinoma
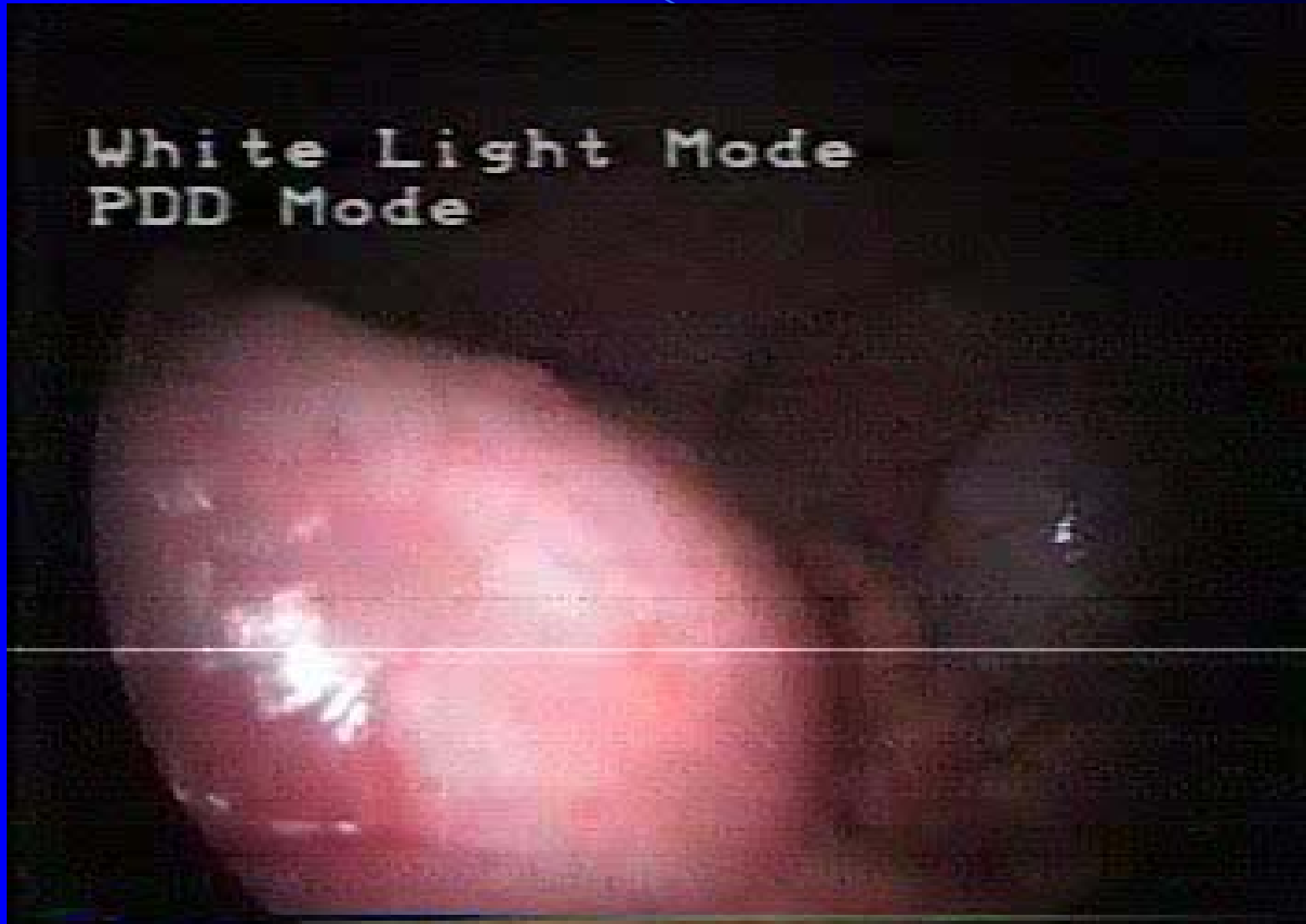
Histological Prove of Findings due to Photosensitizer

Cases	ALA (n. patients)		Hexyl –ALA (n. patients)	
	positive	negative	positive	negative
Suspected cancer recurrence	2	2	0	2
Suspected ovarian cancer	1	1	-	-

Primary Photodynamic Detection
of Ovarian Cancer (I)

PDD Mode

Primary Photodynamic Detection
of Ovarian Cancer (II)

PDD Mode

Primary Photodynamic Detection
of Ovarian Cancer (III)

Histological Prove of Findings due to Photosensitizer

Cases	ALA (n. patients)		Hexyl –ALA (n. patients)	
	positive	negative	positive	negative
Suspected cancer recurrence	2	2	0	2
Suspected ovarian cancer	1	1	-	-

CONCLUSIONS

- Photodetection (PDD) is feasible in a routine clinical setting

- PDD improves staging of ovarian cancer

- PDD may improve diagnosis of recurrence

- Appropriate surgical procedure (laparoscopy, laparotomy) was performed after PDD without complications

- Hexyl-ALA was administred intraperitoneally for the first time in human