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## Radiotherapy of the larynx malignant tumors

**KEYWORDS:** Larynx Neoplasms; Radiotherapy

Therapeutic approach to the carcinoma of the larynx depends on a number of factors, particularly of the tumor localization and the disease stage. Methods that preserve larynx functions have priority, and they also contribute to disease control. Estimation of the local and the regional tumor involvement is important before therapy planning. Optimal findings, contributing better staging, are laryngomicroscopy (LMS), CT, MRI, and neck ultrasound examination. CT is of great value in the assessment of tumor spreading. In that way, spreading of the tumor through the front commissure can be noticed, as well as breakthrough of the thyroid cartilage and infiltration of the prelaryngeal musculature and also infiltration of the thyroid gland. This is important for therapy choosing and planning. Role of radiotherapy in the larynx cancer treatment is important, since it is mainly locoregional disease. Radiotherapy and surgery of glottis tumors T1 and T2 are of equal efficacy. In both cases 5-year survival is 80%-95%. In T1 and T2 tumors of the supraglottic regions, the applied treatment is, in the first place, surgical- partial laryngectomy, and postoperative irradiation therapy is conducted in some cases (the most frequently in positive, bordering PH preparations and the neck involved lymph nodes). T3 and T4 Tumors with N0 up to N2 have to be treated with total laryngectomy, and then with postoperative irradiation therapy. Subglottis tumors are treated with radiotherapy, and depending on response, with surgery after preoperatively applied radiotherapy. Inoperable tumors are treated with radiotherapy or chemotherapy in combination with radiotherapy, what has been the subject of many clinical trials, with the aim of improving survival and quality of life. With LMS finding, it is necessary to have CT (or MR examination), that can give us additional data on the tumor local spreading and contribute to more precise planning of the irradiation volume. In the glottis tumors T1 and T2, dissemination in the regional lymph nodes is not expected, so irradiation therapy is applied with local technique. Irradiation volume includes complete larynx (smaller irradiation volume may have negative effect due to possible local tumor spreading to the region of the front commissure and further front spreading).

In the supraglottis tumors T and T2, without involvement of the lymph nodes (N0), primary tumor is included in the irradiation volume with potential local and regional spreading (since they show tendency of spreading into oropharynx, and regionally into upper cervical group lymph nodes). Medulla spinalis, as an organ of risk, is included into irradiation volume, so, after the

first act and applied TD 45 Gy irradiation volume is reduced to the primary tumor localization. In the cases of regionally involved lymph nodes (N1) irradiation volume should include lower cervical region of the lymph nodes, as well as the supraclavicular ones bilaterally. In the supraglottis tumor localization, the irradiation volume should include proximal part of trachea and lower cervical, supraclavicular and lower mediastinal lymph nodes. The patient is in a position of supination with adequate support placed under head and neck. Irradiation therapy can be conducted in 2 opposite lateral fields (the most precisely using izocentric technique). Wedge filters of 15 and 30 are used due to natural neck curve. When the lymph nodes are involved in the supraglottis tumors, the mostly used is technique of 3 fields with 2 lateral and the third front field, which includes lower cervical lymph nodes and the ones of the supraclavicular region. Line of separation between the lateral fields and the front one is 0.5-1 cm. 3-Field technique is also required in the supraglottis tumor localization, meaning 2 lateral fields and the front one, which should include trachea proximal part, lower part of the cervical and the supraclavicular pits. Since the lung tips are in the irradiation volume, Pg protection is used. Irradiation therapy is applied using supravoltage machine with high energies, mostly energy of 6 MeV, linear accelerators. Therapeutic dose differs depending on the therapy applied; if radical irradiation therapy is applied, dose range is 70-75 Gy; in the glottis tumors TD 60-65 Gy is applied, in the palliative therapy 40-45 Gy, and the postoperative dose is 60 Gy. Classic, conventional fractioning with individual dose per fraction of 2Gy is the most frequently applied. Lately, alternative fractioning regimens are applied, based on the radiobiology principles of higher probability of the malignant cell lethal hits in the sensitive phase; possibility of the malignant cell repopulation is less and successful recovery of normal tissue. It can be applied as classical hyperfractionated radiotherapy, or continual hyperfractionated accelerated radiotherapy. Better results are expected in treatment of the larynx cancer, especially of stages of advanced locoregional involvement, with development of radiobiology, radiological physics, precise individual planning and application of conformal radiotherapy.

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## Role of radiotherapy in combined treatment of meduloblastoma

**KEYWORDS:** Meduloblastoma; Radiotherapy

Meduloblastoma is a primitive tumor of neuroectodermal origin of the skull posterior pit, which predominantly appears in childhood. It makes 20% of tumors of the central nervous system in childhood. It is most frequently diagnosed in children aged 5 and 6 years, and in 20% of cases it appears in infants up to age of 2 years. It occurs in the same percentage in adults. It was classified for the first time by Kusing in 1925 as the tumor of the central nervous system. Disease manifestation is typical for so-called tumor cerebral symptomatology: wider base of walking with balance losing, ataxia, sometimes headache and vomiting due to higher intracranial pressure, nystagmus, diplopia. The first step in diagnosis establishing and involvement of the disease is examination of the intracranial structure and the spinal channel with computerized tomography of endocranium with mielogram, or MR examination of the craniospinal axis. Meduloblastoma treatment always starts with surgery. If necessary, the first surgical treatment includes only the tumor decompression and placing of the shunt for liquor derivation. Then, in the second act, the tumor is removed macroscopically visible in toto, if possible, and if not, the tumor mass is reduced. The tumor surgical removal is incomplete from the microscope point of view, so the treatment should be compulsory continued with radiotherapy. Early works which followed only operated patients without postoperative radiotherapy, showed that in 5-year follow-up there were no survived patients. Local irradiation technique to the very tumor stem resulted in 5% survival. Having in mind that meduloblastoma cells have characteristic of dissemination through cerebrospinal liquor along arachnoidal space, Bloom et al. introduced postoperative irradiation therapy of the complete craniospinal access with extra dose to the region of the posterior skull pit. Such an approach improved results of 5-year survival up to about 55%. Chemotherapy, with surgery and radiotherapy, found its place in certain situations, when great rest is present, infiltration with brain stem, as well as in children under age of 2 years. Aim of the craniospinal radiotherapy is irradiation of the complete subarachnoidal space: cranial and the spinal one, for prevention of the malignant infiltration development. One of the most frequent irradiation methods is applied at our Institute as well. It is the irradiation of the cranium and proximal part of the cervical channel, most frequently up to C4, from two opposite parallel fields, with application of compensational filter and the spinal channel irradiation from direct field. Photon irradiation on the linear accelerators is also applied. Since complete intracranial subarachnoidal space should be irradiated with the cranial field, the volume should include subarachnoidal space around optic nerve, what practically means orbit top, and the field should also cover cribriform plate and temporal pit. The spinal field includes the spinal channel from upper edge C5 to S2 vertebra. Attempt of some centers to include electronic field to the cribriform plate region, as well as spine electronic irradiation, did not show either difference in the treatment results, or late consequences in relation to the patients irradiated only with

photons. Meduloblastoma is relatively radiosensitive tumor. Radiotherapy is compulsory mode of the postoperative treatment. The biggest centers in the world, as well as our Institute, accepted optimal dose of TD 35-36Gy for irradiation of the craniospinal axis in 20 seances, with boost dose to the skull posterior pit to TTD 55-56Gy. The field of the posterior skull pit spreads from posterior clinoids and, regarding height, it is 2/3 height of the skull base up to the skull top. In cases of the disease dissemination along the spinal channel, metastatic locations must receive TTD 45-50Gy. Choice of method, dose and machines at our Institute with follow-up of the results of 5-year survival and of acceptable consequences, correspond to the results published in the referential oncology centers in the world.

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# Principles of correct communication with the cancer patients

**KEYWORDS:** Communication; Nurse-Patient Relations; Medical Oncology

Communication is defined as a process of communicating message which contains information, from one person to another, using numerous means: gesture, action, sound, written word or visual image. Correct communication among nurse and patients is based on trust. Relation of trust is made with sincerity, honesty and understanding, and that is really, a skill of making correct communication (1).

Aim of this work is application of the principles of correct communication with the cancer patients in the clinical practice of nurses.

The sample is formed on 100 patients.

Criteria for inclusion into research were:

- Possibility of making verbal communication
- Agreement on participation in the research

### Description of the sample

Table 1 shows that higher percentage was with male patients (63%). Average age was 49 years. Table 1 shows that the largest number of tested persons (58%) had secondary school.

**Table 1.** Structure of tested persons according to sex, to age and to education

		N <sup>o</sup>	%
Sex	male	63	63
	female	37	37
Age	20-30	11	11
	31-40	12	12
	41-50	28	28
	51-60	32	32
	61-70	17	17
Specialist's training	Elementary school	14	14
	Secondary school	58	58
	Advanced school	15	15
	Faculty	13	13

### Place and time of testing

The testing was performed at the Institute for Oncology and Radiology of Serbia at Department of Chemotherapy - Service of Medical Oncology, in October, 2002.

### Methods and instruments of testing

A pool with special questionnaire designed for this testing was used. A

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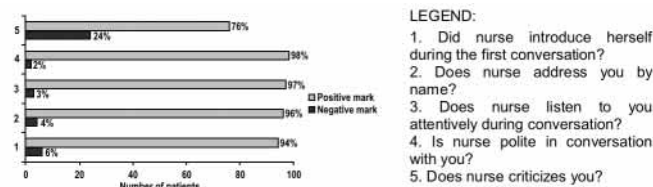
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questionnaire with title "Nurse - patient communications" contains a group of questions enabling insight into application of the principles of respect, understanding and sincerity.

Obtained results are shown in tables and graphs.

### Assessment of the principle of respect

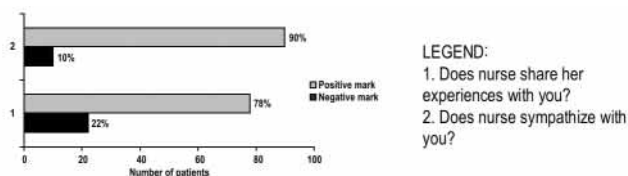
Figure 1 shows that the great majority of patients (98%) is of opinion that nurses are polite in conversation with them, while 24% of tested persons said that nurse made remarks regarding their attitude and that she criticized them.



**Figure 1.** Structure of tested persons according to the principle of respect

### Assessment of the principle of understanding

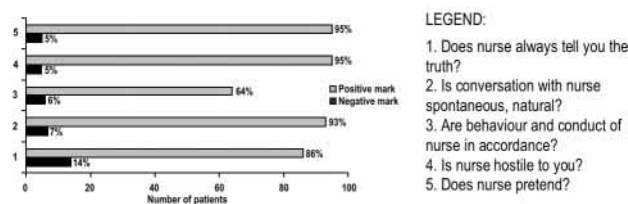
Ninety percent of tested persons replied positively to second question, what supports application of the empathic attitude in communication with the cancer patients.



**Figure 2.** Structure of tested persons according to the principle of understanding

### Assessment of the principle of sincerity

Figure 3 shows the following results: As to the question "Does nurse always tells the truth?" 14% of the tested persons replied "no", or they were suspicious of her words, while 95% of them replied that nurse did not pretend in the communication with them, and 93% considered that the nurse was natural, spontaneous in talks, what shows achieved relation of trust.



**Figure 3.** Structure of tested persons according to principle of sincerity

### Total assessment of the principles of communication

Table 2 shows that 93% of tested persons said that there was sincere relation in communication with them, 92% confirmed respect and 84% confirmed understanding in the communication.

**Table 2.** Structure of tested persons according to the principles of correct communication

Principles	%
respect	92
understanding	84
sincerity	93

Summarized results of the testing show that a progress has been achieved in understanding of the cancer patients' needs in comparison to the previous similar studies (2).

Ten percent of the tested persons marked positively the application of principle of understanding in relation to the said questionnaire.

Comments the patients made in questionnaire show that they perceived



responsibility and professionalism as a part of nurses' job, that nurses are not adequately paid, that they are conscientious, kind, but also different in their behaviour and conduct.

In conclusion, principles of correct communication are applied in high extent; principle of understanding is less realized, but it is by 10% improved in relation to former research (2). Apart from high marks of the patients, communications should be further researched and improved.

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# New challenges in nursing education related to needs of elderly population

**KEYWORDS:** Education, Nursing; Delivery of Health Care; Aged

Growing number of elderly population, and of the chronic diseases common for this age, are the challenges, which nurses will face in the next several years. There is a need for health care training and raising competence to a higher level, with larger research activities in the European countries. The aim of this work was to show the application of education in the form of specialization for the needs of aged population by Lovingsberg University Program in Oslo, which is in the progress. Educational plan and program for nursing specialization in the field of geriatrics and rehabilitation is made on the basis of introductory talks of the projecting team of the Universities in Podgorica and Oslo. The Program is a revised version of approved curriculum of the College for advanced education in the field of geriatrics. Since nursing education in Yugoslavia, and especially in Monte Negro, differs from that in Norway, students attending this program will formally be the students of Lovingsberg Deaconal College as well, and will receive their diploma. The first year of education will be in accordance with permission of the College. The aim is to gradually integrate this specialization into the nursing educational program. At the moment, 30 students from Yugoslavia, Republic of Srpska and Slovenia attend 3-semester lectures. The curriculum includes nursing theory, health care of aged population, research, and ethic principles up to management in institutions for old persons, as well as organizing of palliative care. In conclusion, aim of this nurses education in the form of specialization, is the beginning of reforms, complex ones, regarding education and development of institutions for health care delivery to elderly population.



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## Patients' education through scientifically-popular material

## Importance of nursing interventions in patients' education during breast cancer radiotherapy

**KEYWORDS:** Patient Education; Medical Oncology

**KEYWORDS:** Patient Education; Nurse's Role; Radiotherapy; Breast Neoplasms

Serbian Society for Fight against Cancer, among other activities, is publishing the popular publications in the field of oncology. The patients, being treated and followed-up at the Institute of Oncology and Radiology of Serbia cannot easily obtain the necessary information. Our aim is to make them better informed through posters. The publication "It is better to prevent than to treat" issued quarterly, provides information on the current knowledge and achievement in all fields of oncology, from prevention to the most contemporary therapeutic approaches. The posters with thematic contents in the field of nutrition, prevention and diagnostics, are intended to be exposed in the waiting rooms of oncology institutions. In conclusion, by informing the patients in acceptable way on the scientifically based treatment, we are confronting to the spreading of sensational lies and dishonest tales about disease treating with "miraculous" methods and drugs.

The breast cancer radiotherapy is conducted as an individual treatment, or in combination with the surgical, or the chemotherapy approach. Side effects may occur during radiotherapy and their prevention and eventual treatment is important for delivering the radiotherapy in the planned period. The aim of this study was to investigate the incidence of the nursing intervention, and to estimate patients' knowledge on side effects of radiotherapy and their prevention, before and after nursing interventions during the radiotherapy. In the period between January and March 2002, the sample of 40 patients, treated at the Institute of Oncology and Radiology of Serbia, were included in the study, using the following instruments: nursing anamnesis, nursing care list, disease history, test of patients' knowledge. The knowledge deficiency on the treatment method and its side effects was the most common nursing diagnosis before radiotherapy. The high percentage of included patients showed the satisfying knowledge during and after the radiotherapy, as well as the understanding of the need for changing the life style after treatment completion. In conclusion, the initial deficiency of specific knowledge on the radiotherapy and its side effects, as the most common nursing diagnoses, indicates the importance of patients' education. The acceptance of nursing interventions could influence the conducting of treatment in the optimal period of time.



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## Education: New support concepts in cancer patients' health care

**KEYWORDS:** Patient Education; Neoplasms; Nurses Role

Education increases knowledge and understanding of disease and its treatment; it also influences attitudes to chemotherapy treatment and, within health care, it helps us influence changes of negative health habits, changes in behavior in order to prevent potential health problems and successfully solve actual ones. Accordingly, education should be realized as powerful device in fight for life against the malignant disease. We would like to point out importance of education of the cancer patients within health care, and to determine role of nurse in its realization through individual standardized interventions, systematized in health care standards. The aims of this paper were to realize incidence of nursing diagnosis "lack of knowledge" in relation to other nursing diagnoses concerning cancer patients, and to perceive needs for education, i.e. specific knowledge, which is missing to patients receiving chemotherapy. Our investigation included 100 patients diagnosed with cancer with different localization of the primary disease receiving chemotherapy during April 2001 at the Service of Medical Oncology of the Institute of Oncology and Radiology of Serbia. We used health care documentation and questionnaire specially designed for this investigation with title "Needs for Education". Results of the investigation are assessed, and showed in tables and graphs. Results of our investigation give contribution in confirmation of education importance and the need for systematic, continual and research approach to education of cancer patients, what at the same time, influence defining role and responsibilities of nurse in this field of health care.

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## Project: Health care professionals and tobacco control

**KEYWORDS:** Smoking; Health Personnel; Health Education

Problem: Smoking prevalence in general population in our country is very high - 41%. Health care professionals have specific role in smoking prevention and its giving up, either through patients' advising and education, or through a sample ("role model"). However, many researches indicates that smoking prevalence is very high in the health care professionals and that consciousness on the smoking harmfulness is not in the satisfying level. Project aims: To perceive situation on the smoking habits and attitudes among the health care professionals; education of the health care professionals on importance of tobacco control and possibilities of preventive actions; smoking prohibition at the health institutions and decrease of the smoking prevalence among the health care professionals; inclusion of the health care professionals in the smoking control activities, individually (in work with patients) and through organizing actions; pressure on the Government of Serbia and the Ministry of Work to create national policy and to change existing laws related to tobacco control. Activities - phases: 1. Questionnaire among the health care professionals for complete perceiving of the situation among the health care professionals: smoking habits, attitudes on the smoking habits, interest in taking part the activities. 2. Education of the health care professionals: seminars, round tables, printed material, mass media. 3. Actions for decrease of the smoking prevalence among the health care professionals by making the smoke-free institutions. 4. Actions directed to public, government, etc. Preparation of the phase I is in progress. A questionnaire has been made and the institutions for the pilot testing have been chosen. Organizers: The program is initiated and conducted by: Serbian Society of Serbia for Fight against Cancer, Institute of Serbia for Health Protection - "Batut", IORS, Union of the Health Care Professionals of Belgrade and Association of Nurses and Technicians. Serbian Society for Fight against Cancer coordinates all activities.



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## How to add years to life

## The importance of social support in adaptation of patients with malignant diseases

**KEYWORDS:** Aging; Aged; Quality of Life; Mental Health; Health Status

**KEYWORDS:** Lung Neoplasms; Social Support; Adaptation, Psychological

For all people aging is inevitable. It is a period of life in which life activity decline, and needs for somebody's support, help and care increase. Thirty-eight old persons aged 90 years and more were tested by means of a questionnaire in the territory of Smederevo (villages of Smederevo community were also included). We investigated: 1. Subjective feeling of health of the persons aged 90 years and more; 2. What factors influenced quality of life up to 50 years of age and how they influenced life of nonagenarian persons? 3. What is a degree of the functional capability of the population aged over 90 years? 4. Who takes cares about aged persons? We found that most people aged 90 years and more, regardless their very old age, are of preserved mental and physical health; that none takes care of majority of old population; that they have positive life attitudes and habits regarding correct nutrition and physical activities. Although they are all well along in years, we learned very interesting life messages when we talked to them. Once we were their children, and meanwhile they become ours. All they need is little of our time and patience and few kind and warm words.

Social support includes the other persons, who can provide the help to patients, to use their own psychological abilities to overcome their emotional problems. Supporting persons can help, using their experience and other resources, giving the information and counseling, with the aim to minimize or solve stress situation. The aim of the study is to estimate the sources of support, to define its quantity and quality, and to grade the patients need for support. In addition, to assess the influence of social support on the patient's adaptation to malignant disease. The questionnaire for evaluation of psychosocial adaptability was applied and the scale for evaluation of emotional distress (HAD) been used. Number of examined patients was 72 (36 lung cancer and 36 tuberculosis). Our results showed very distinctive presence of psychosocial, emotional and practical support of patients with cancer. The most frequent source of support was marriage partners. There was found distinctive need for social support in all patients. It was accomplished by contacts with social environment. The grade of anxiety and depression was minor in supported patients. In conclusion, satisfaction by the given social support resulted in positive cope with the disease and treatment, and good adaptability.



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## Prevention of breast cancer complications

**KEYWORDS:** Breast Neoplasms; Preventive Medicine, Health Education

The continuous and systematic education of nurses and of healthy female population from the domain of the oncological healthy protection takes an important place in the preventive program of malignant disease of breast-cancer. The performed researching gave different results about the grade of motivation, information about breast-cancer as well an estimate of knowledge level, of self importance control of breast with the aim of the prevention of potential disease complication. By undertaken activities of education the wrong and many prejudices are eliminated with individuals, in families and also in the whole social community.

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## Education: New support concepts in cancer patients' health care

**KEYWORDS:** Patient Education; Neoplasms; Nurses Role

Hercept test is semiquantitative immunohistochemical method for determining HER-2 (c-erbB-2) protein on the surface of the tumor cells. The test is performed with prepared kit (DAKO), containing necessary agents for immunohistochemical painting. The method can be performed on histological cuts from the tissue paraffin blocks and cytological smears. The aim of the paper was to present the Hercept test use in the Institute of Oncology and Radiology of Serbia, pathology laboratory. Some problems in technical preparation of tissue cuts for the immunohistochemical staining were pointed out, as well as certain discrepancies in the quality of staining. Our first experience was based on the Hercept test, performed on the tissue cuts from the breast cancer tissue paraffin blocks and on the cytological preparations, obtained with the kit for test performing (DAKO).



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## Health care of aged cancer patients

## BRCA1/2 testing in patients with breast and ovarian cancer

**KEYWORDS:** Aged; Neoplasms; Nursing Diagnosis; Delivery of Health Care

**KEYWORDS:** Breast Neoplasms; Ovarian Neoplasms; Genetic Techniques

Physiological changes in organism due to aging, and numerous chronic diseases resulting from aging have great significance in health care delivery and in therapy conducting to cancer patients. Contemporary approach in health care delivery to elderly cancer patients requires from the medical staff identification of health problems of this population and their definition through nursing diagnoses; setting goals and their realization with planned nursing interventions; and evaluation of work. The end point of these procedures is better quality of life and conducting continual health care. The aim of this paper was to identify the most common problems of elderly cancer patients, and to point out importance of continual health care. Retrospective analyses of documentation of health care process at the Institute of Oncology and Radiology of Serbia was done, and the communication with visiting-nurse services was used as a source for this analysis. After we had analyzed the documentation of the health care process, we determined what the most common nursing diagnoses were found the collaborative problems, and analyzed how important continual health care of these patients was. The analysis showed that the needs for health care of elderly cancer patients are numerous and different, both due to nature of underlying disease and their age. Existing services for taking care of these patients in home conditions certainly cannot satisfy their needs. For that reason, priority should be given to the development and promotion of continual health care, enabling more qualitative patient life with his family and friends.

Breast cancer is one of the most common malignancies in human population and the leading cause of cancer death in women. The general population has 10%-12% lifetime risk of breast cancer; approximately 1 woman in 8 will develop this disease. The risk factors for breast cancer: lifetime, early menarche, late menopause, nulliparity are well known. But a family history of breast cancer is a key risk factor, indicating an important role for heritable factors in the development of the disease. About 5%-10% of all breast and ovarian cancers is due to inherited genetic mutations. During 1994 and 1995, two breast cancer related genes (BRCA1/2) were mapped. The cloning of the BRCA1 and BRCA2 genes offers the opportunity to select a group of breast cancer patients with alterations in the sequences of these genes. Eighty to ninety percent of hereditary breast and ovarian cancers are due to BRCA1 and BRCA2 mutations. BRCA1 mutation carriers have up to 87% risk of breast cancer, 40%-60% risk of a bilateral breast cancer and 15%-45% risk of ovarian cancer. Concerning the fact that each year in Institute of Oncology and Radiology, over 1000 new cases of breast cancer are diagnosed, the importance of this study is obvious. The first step is a selection a group of breast cancer patients with characteristics of familial breast/ovarian cancer, using the worldwide adopted criteria. It is necessary to obtain informed consent from patient after provision of pretest counseling. The process of genetic counseling is critical both before and after testing to ensure that patients understand the potential medical and psychosocial implications of testing and are aware of available options and resources.

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## **Estrogen dependence of breast carcinoma: The role of estrogen-regulated proteins**

**KEYWORDS:** Breast Neoplasms; Receptors, Estrogen; Neoplasm Protein

Hormone dependence of human breast cancer has been well documented. Failure of 30%-40% of patients with estrogen-receptor positive cancers and 20%-30% of patients expressing both estrogen (ER) and progesterone receptors (PR) to respond to endocrine therapy, together with observation that 10% of patients with tumors lacking both receptors do respond, means that other markers of hormone responsiveness should be used. One of these markers is pS2 protein, which was first detected in estrogen dependent breast cancer cell line MCF-7. Our purpose was to answer the question whether the expression of pS2 may be a marker of functional heterogeneity with respect to the steroid hormone receptor (SR) status. One of the most studied estrogen-regulated proteins in breast cancer is a cathepsin-D. Cathepsin-D has a role in promoting tumor growth as a proteolytic enzyme. The possible usefulness of cathepsin-D as a prognostic factor depends of its dependent as well as independent associations with established factors such as axillary status, tumor size and SR status. Expression of protein pS2 as well as cathepsin-D and other biomarkers may identify distinct subset of ER positive carcinomas, indicating the possible usefulness of these estrogen-regulated proteins in clinical practice.