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Evaluation of Chest Disease Consultations

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Abstract - Consultation means refering a case to the related specialist in order to have his/her opinion and manage the treatment of the patient accordingly (1,2). Pulmonary consultations are requested commonly from nearly every inpatient clinic. Cases are generally consulted following the determination of a clinical or radiological pathology at pulmonary system in order to have the patients assessed by the pulmonologist's point of view regarding diagnosis, treatment or at the preoperative state. This study retrospectively evaluates the records of the consultations asked from Clinics of Chest Disease.

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Evalaution of Chest Disease Consultations

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Abstract - Consultation means refering a case to the related specialist in order to have his/her opinion and manage the treatment of the patient accordingly (1,2). Pulmonary consultations are requested commonly from nearly every inpatient clinic. Cases are generally consulted following the determination of a clinical or radiological pathology at pulmonary system in order to have the patients assessed by the pulmonologist's point of view regarding diagnosis, treatment or at the preoperative state. This study retrospectively evaluates the records of the consultations asked from Clinics of Chest Disease.

I. Summary

Our aim was to evaluate the results of Chest Disease Clinic consultations. Pulmonary consultations in Haseki Training and Research Hospital between years 2008 and 2012 were retrospectively evaluated.The clinic from which the consultation was demanded, the reason for consultation, anamnesis of the patient, findings for physical biochemical and radiological examination and comorbid diseases as well as a preceding pulmonary disease were recorded.

The consultations were mostly required by Clinic of Internal Medicine (27.6%) for patients with radiological and clinical abnormalities in order to have suggestions for diagnosis and treatment (64.6%). The most frequent symptom was dyspnea (41%). 21.6% of the patients had a preceding pulmonary disease which was COPD most commonly. 35.5% of the patients had a comorbid disease and most frequently it was hypertension. We noted that internists requested pulmonary consultations mainly for confirmation of diagnosis and treatment, while the surgents requested it for preoperative evaluation and predicting/avoiding postoperative complications by planning the appropriate management.

II. Materials and Methods

The records of five thousand three hundred and sixty patients consulted by Chest Disease Clinic were retrospectively analysed. The rationales for consultations were classified as requisition for 1) preoperative assesments 2) suggestions for diagnosis and treatment. The basic sociodemographic data of the patients (age, gender), comorbid diseases, history of smoking, detailed anamnesis of pulmonary symptoms, physical findings recorded at admission, chest x-ray, total blood count, erythrocyte sedimentation rate, additional biochemical analysis, and if ordered, pulmonary function testing(PFT), arterial blood gas analysis (ABG) and computed tomography findings were recorded denoting normal or abnormal. Sputum analysis, findings of advanced radiological investigations and invasive interventions such as thoracentesis or bronchoscopy were recorded together with the diagnosis. The consultation findings were categorized and recorded as 1) suggestions for diagnosis and treatment 2) permission for operation 2a) reconsultate following the suggested treatment 2b) get prepared for intensive care unit for patient who doesn't improve and whose operation is urgent and and necessary 3) follow ups needed. The data were analyzed using SPSS software, version 17.

III. Findings

All of the patients who had been consulted by Chest Disease Clinic during four years were included in the study. The total number was 5360 (Female:2208/41.2%; Male:3152/58.8%). The mean age was 61.28±14.89 years (Min:14; max:98). Half of the patients were smoking. 1912 (35.6%) patients were consulted for preoperative evaluation, 3448 (64.6%) for diagnosis and treatment. (Table 1).

3664 of consulted patients (68.4%) didn't have a preceding pulmonary disease while 1696 (31.6%) had a pulmonary disease before which were commonly COPD and pulmonary infections (9.1% and 6.9% respectively). Internal Medicine and Surgery were the departments which required consultations most (27.6% and 21.6% resp.). (Table 2).

904 of patients (16.9%) did not have any of the pulmonary system findings as cough, sputum, dyspnea, chest pain or hemoptysis while 4456 (83.1%) had at least one (Table 3). Pulmonary function testing (PFT)was ordered for 1376 (25.7%) of patients with any of these symptoms and 1216 had undergone blood gas analysis (BGA) (22.7%). 3456 of patients (64.5%) did not haveany associating comorbid disease while 1904 had at least one (35.5%). The most frequent comorbid disease was hypertension (8.7%).

112 (2.1%) of patients couldn't have chest x-ray examination for several reasons. 1296 of the rest (24.2%) had normal, while 3952 (73.7%) had abnormal chest x-ray findings. Hereupon, 1984 patients (37%) undergone computered chest x-ray examination and

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1704 (31.8%) had abnormal findings (Table 4). Upon evaluation 1304 patients (24.4%) were permitted for operation, 2360 patients (44%) were offered further examination or medical treatment.

Table 1 : The frequency of gender, smoking history and reasons for consultation

		N	*%*
Gender	Female	2208	41.2
	Male	3152	58.8
Smoking	Yes	2680	50.0
	No	2680	50.0
Consultation rationale	Preop evaluation	1912	35.6
	Diagnosis and treatment	3448	64.4
Total		5360	100

Table 2 : The distribution and frequency of departments requiring consultation

Departments	*N*	*%*
Internal Medicine	1480	27.6
Surgery	1160	21.6
Otorhinolaryngeology	216	4.0
Urology	544	10.1
Microbiology and Infectious Diseases	152	2.8
Neurology	288	5.4
Gynecology and Obstetrics	120	2.2
Dermatology	176	3.3
Ophtalmology	88	1.6
Neurochirurgy	136	2.5
Anesthesiology and Intensive Care	104	1.9
Emergency	360	6.7
Ortopedia and Traumatology	536	10.0
Total	5360	100.0

Table 3 : The complaints of the patients

Complaints	*N*	*%*
None	904	16.9
Cough	1000	18.7
Dyspnea	2200	41.0
Hemoptysis	32	0.6
Chest pain	64	1.2
Cough and chest pain	824	15.4
Other complaints	336	6.2
Total	5360	100.0

Table 4 : The examinations ordered and the results

		N	%
Chest x-ray	None	112	2.1
	Normal	1296	24.2
	Abnormal	3952	73.7
Thorax CT	None	3376	63.0
	Normal	280	5.2
	Abnormal	1704	31.8
PFT	None	3984	74.3
	Done	1376	25.7
BGA	None	4144	77.3
	Done	1216	22.7

IV. Discussion

Nowadays, consultations are more oftenly required because of extreme specialisation in very branch as well as increase in production of medical knowledge, widespread utilisation of interventions requiring special education and technique and increase in juristic and public pressure on doctors(1,2). Therefore it is necessary for the doctors to work together in order to acquire a holistic point of view(1,2,3). In our hospital pulmonary consultations are required mostly for a preoperative evaluation or any pulmonary pathology. For most of our patients (64.4%) consultations were required for suggestions of diagnosis and treatment modality. This result is similar to Öztürk and colleagues' study. The most common symptom was dyspnea and cough (41% and 18.7% resp.) This result is also similar to the results of Zamani, Annakkaya, Ozturk, Gulec et al(4,5,1,6,7)

Pulmonary consultations are required by almost every clinic which were mostly from Departments of Internal Medicine and Surgery(27.6% and 21.6% resp.).Arslan, Annakkaya, Ozturk, Ucar et al. reported in their studies that the most common request was from departments involving surgery(7,5,1,8). Consultation requests from Internal Medicine were mainly for diagnosis and treatment while surgical departments wanted additional preoperative evaluation. This outcome is also parallel to the results of the study of Arslan et al(7).

Preoperative evaluation is critically important in order to foresee possible postoperative complications and avoid them. 35.6% of our patients were consulted for preoperative evaluation. The percentages were 31 and 61 at Karnak's and Annakkkaya's studies respectively (9,5). Post operative pulmonary complications are strongly associated with patient's preoperative condition and intraoperative plus postoperative factors Important preoperative factors

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may be listed as age, smoking, general health condition (ASA>class 2), obesity, nutritional status, associating pulmonary infection and COPD(10). Half of our patients were smokers yet most of them did not have established pulmonary disease.

Advanced age, especially over 70 is an important risk factor increasing mortality and morbidity. (4,7,11). Our patients' age ranged between minimum 14 and maximum 98 years. (61.28±14.89). Associating COPD is also an important risk factor for development of postoperative pulmonary complications (1). Furthermore pharmaceuticals used at the management of COPD are reported to be causative risk factors for arrythmias and increasing cardiac complications (9).

The most common ordered tests were PFT and ABG (25.7% and 22.7% resp.). Pulmonary Function Testing (PFT) is a cheap, simple and widely used method for evaluating the pulmonary symptoms and findings, diagnosing obstructive or restrictive pulmonary diseases, identifying the severity of pulmonary impairment and managing which should be certainly performed in patients who will be undergoing pulmonary resection (8). PFT has a critical importance especially at identifying the main pathology in acute and undetermined dyspnea and at managing the treatment (7,8). The frequency of ordering PFT and ABG was 13% and 49% in our study which was 66% and 29% respectively in the study by Arslan et al(7).

The most common pulmonary complications were pneumonia, respiratory insufficiency, bronchospasm, atelectasis, prolonged air leakage, bronchopleural fistula, empyema and exacerbation of pre-existing COPD (9,10,11). We determined 110 cases showing at least one of these postoperative complications above. The most common complications were fever and dyspnea. Mortality wasn't observed according to these complications.

24.4% of consulted patients were permitted to have operation, 44% were offered further examination and/or medical treatment. Ucar et al reported that they offered medical treatment to 37% of the patients they had consulted and for 29% they did not have an objection for operation(8). Arslan et al reported these numbers respectively 34% and 30%(7).

We concluded that pulmonary consultations are mainly requested by departments of internal medicine for diagnosis and management of dyspnea. Departments of surgery needed consultation additively for preoperative evaluation. We think that pulmonary consultation for preoperative evaluation is crucial in diagnosing and managing the diseases.

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