Autobiography- updated Feb 2024

Majid Mirsadraee M.D.

Also Called Majid Mirsadraei, Majeed Mirsadraei.

Clinical professor at medical school of Islamic Azad University- Mashhad medical science branch, H index=15. I index =24. cited with 674 citations. Pioneer on Bronchial anthracofibrosis of the lung (an obstructive lung disease).

I have borne in Khorram abad capital of Lorestan state in Iran, but I lived there only for 6 months never back again. His father (Hamid) was an army officer who get promotion up to vice president of electronic communication section of headquater of Iranian military. His mother (Mansoureh Soleymani) was housewife but she tried many jobs in the her house.

I grew in Isfahan (1-4 years old), Tehran (5-8 years old), Kermanshah (9-14 years old). In this year (14 years old) he did not accept studying in Kermanshah so I moved to Mashhad to study in one of the best high school of Mashhad (Ebn Yamin high school). During these time I experienced one of most astonishing experience in my life (1957 Iran`s revolution). After the revolution I moved to Tehran again (16-18 years old) to join my first degree family, there, I continued studying in the best high school of Tehran (Kharazmi high school).

After diploma I experienced two years gap due closure of all university (cultural revolution). By reopening of the universities I entered Mashhad University of Medical of Sciences by a good entrance exam result.

I studied medicine (1982-1988) and internal medicine specialty (1988-1991). After the board exam in internal medicine, I moved to Bandar Abbas university of medical sciences and worked as faculty member (assistant professor) for five years. Then after I moved to Medical school of Islamic Azad university- Mashhad branch which during this time I entered in pulmonary

medicine specialty (2001-2003) in Mashhad university of medical sciences. I finished this course with passing board exam in 2004. I continued in working and teaching Medical school of Islamic azad university- Mashhad branch and became a clinical professor since 2015.

My main activities were teaching pulmonary courses for medical students and research about lung disease and basic sciences which will be mentioned later.

The spectrum of my activities in research area:

1- I started from case report studies, and continued up to phase 4 clinical trial.
2- My research tools were endoscopy or self stained blood smear, up to specifiec molecular studies.
3- I started by myself activities in the university, however later I invited in national studies conducted by International drug companies such as Astra-Zenneca or Cinagen. (cross sectional or phase 3 clinical trial).
4- I started publishing articles from my local medical school, up to Q2, ISI journals.
5- I was referee for many international journals.
6- I trained many students on research studies, who are involved on international research programs.

The main categories of his researches can be classified as follow:

1- "[Anthracosis of lung and bronchial anthracofibrosis {Figure 1)]"

I am the pioneer of this disease around the world as I published most articles in most aspects of this disease including A-epidemiology, B- Association with tuberculosis. C- broncholithiasis, D- Pulmonary function test, E- Radiological and computed tomography, F- Pleural disease, G- Treatment.

Taken from one of my article:

“Anthracosis of the lung is an ancient disease all around the world from Egypt to northern countries. This disease varies from just a patch of black discoloration of bronchial mucosa up to complete obstruction of large bronchi that called “Bronchial anthracofibrosis”.

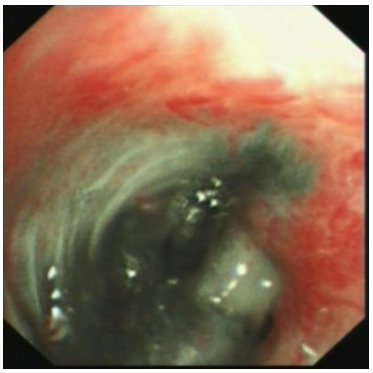


Figure 1- Obstruction of a large bronchus due to anthracofibrosis.

This disease is more prevalent in rural area who exposed to wood smoke including wood in stove or animal dung, therefore, it is mostly reported from third world countries, but presence of this disease in the rural area of the world shall be considered. I began studied about anthracosis of the lung since 1981. Two articles[1,2] describe the demographical and clinical findings of anthracosis of the lung which are very similar to COPD. The patients are usually non-smoker urban subjects mostly housekeeper women that baked bread or exposed to wood smoke in kitchen. Study on pulmonary function tests revealed obstructive lung disease with normal DLCO (Lung diffusion) which showed mainly large and medium bronchial disease[3]. Four article described association of tuberculosis with classic diagnostic and modern PCR methods[2,4,5 and 6]. These articles showed 3.2 higher relative risk ration in subjects with bronchial anthracofibrosis (Figure 2).

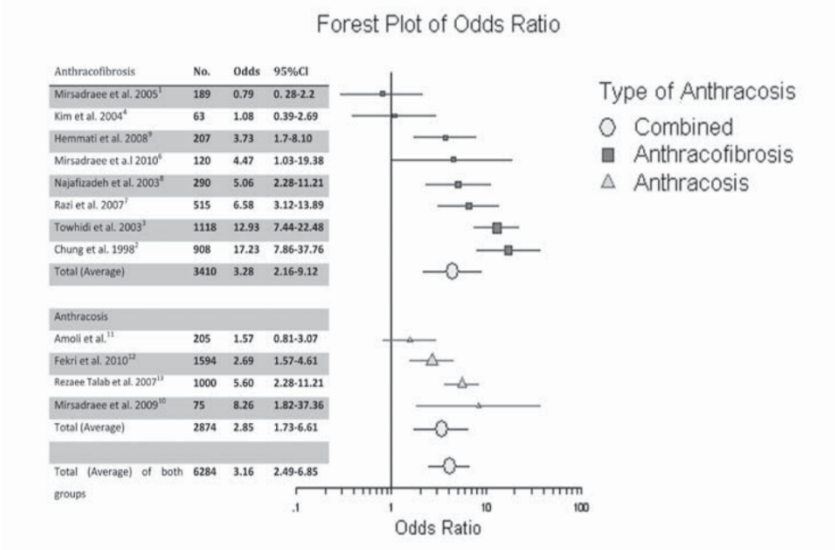


Figure 2- Odds ratio of tuberculosis in anthracosis and anthracofibrosis of lung.

Radiological findings included high attenuated hilar lymphadenopathy, bronchial stenosis and high attenuated mass lesion[7] (Figure 3).

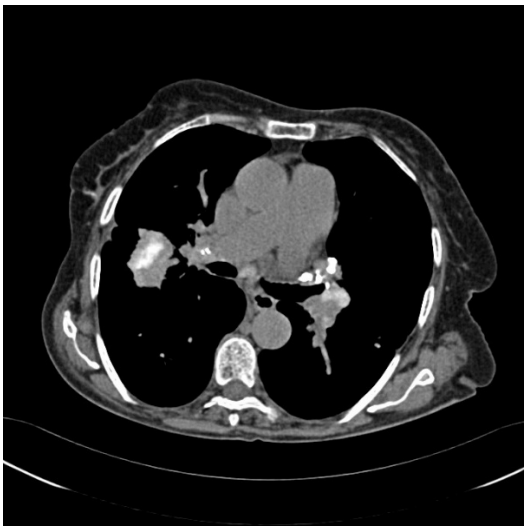


Figure 3- Hyper-attenuated mass in a subject suffering from bronchial anthracofibrosis

I also reported an especial pattern of endobronchial ultrasonogram in lymph node of mediastinum for these patients[8] (Figure 4).

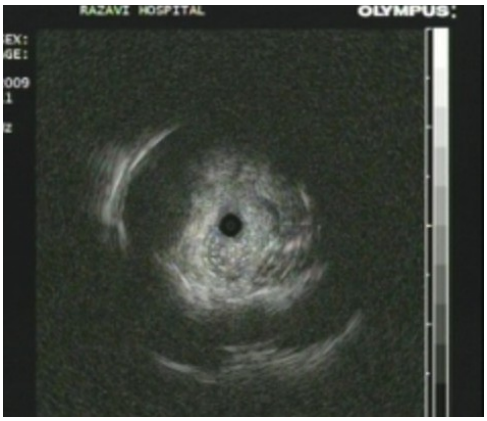


Figure 4- Endobronchial ultrasonography from mediastinal lymph node of a patient suffering from bronchial anthracofibrosis. Note to punctate hyperechoic pattern.

The pleural involvement induces transudate pleural effusion due to blockage of lymphatic fenestrae of parietal pleura (Unpublished data) (Figure 5).

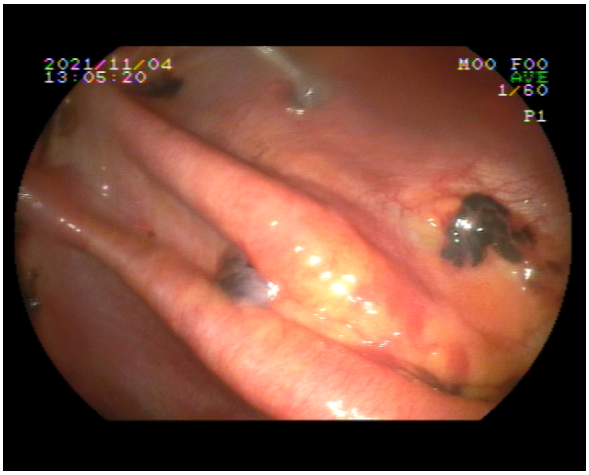


Figure 5- Patch of anthracosis in fenestration of pleural lymphatic pleura.

Combinations of Tiotropium and Salmetrol- Fluticason inhaler was promising therapy in my recent clinical trial, but still prednisolone is effective in acute exacerbations[9].”

2- “Research on sever persistent asthma”

I published many articles on asthma on two main categories: 1- Observational studies, 2- Clinical trials.

I wrote “Sever persistent asthma applies to illness who were resistant to high dose Inhaled corticosteroid plus long acting beta 2 agonist. This variant of asthma is encountered in 5% of all cases of asthma but it is a challenge in most lung specialist clinics due to frequent exacerbation and sever persistent symptoms of asthma”.

I tried many mediators in pathophysiology of asthma other than allergic asthma including IL-17[10] and Toll like receptor-2[11]. Then after I tried a bypass toward management of this condition bearing in mind of Iranian folk medicine. A list of herbal and non-herbal drugs which used in different clinical trials included: Rosemary plus Platanus[12], Borago[13], Plantago[14], Propolis[15], Ferula and echinops (unpublished data). Some of these drugs were effective with very low side effect such as Plantago and Echinops.

From these drugs Plantago is the most promising drug. Proposed mechanism of action of this drug is covering the intestine mucosa with musinous materials. According to leaky gut syndrome hypothesis, intestine is the second port of entrance for allergens after the airways[16]. Therefore Plantago is able to inhibit the absorption of allergens from intestine. This mechanism has not used for treatment of asthma yet. According to very low absorption of this drug, I believe that this drug exert very low side effect. Therefore, we can use Plantago for treatment of active asthma, in addition to standard asthma therapy, and also, Plantago can be used as a prevention, when intestine assume as the port of entry (Mask can be used as blocking the entrance of air borne allergens). This drug has a wide range of usage, and we can add it to treatment of food allergy, which cause allergic rhinitis, urticarial and anaphylaxis.”

3- [Infection as the underlying cause of asthma]

I believed that we can manage asthma better by eradicating possible infectious agent which may grow inside of our body.

I wrote “During those studies on very severe asthmatic, I noticed subjects who did not respond to none of the recommended treatments. Severe asthma with fungal sensitization (SAFS) was recently introduced as a cause of severe asthma. It resembles allergic bronchopulmonary aspergillosis (ABPA), but without obvious bronchiectasis and high IgE titer. Interestingly, the more severe the asthma is, the more prevalent ABPA and SAFS is (approaching 33% in severe asthma). This is contrary to the European respiratory society/American thoracic society (ERS/ATS) guidelines on severe/resistant asthma, which did not recommend evaluating and treating severe asthmatic subjects without evidence of ABPA. By chance, I tried Itraconazole for eradicating aspergilosis with great success. Allergy and asthma had been proved as a cause of asthma associated bronchiectasis, before but in this experience, I detect asthmatic subjects without bronchiectasis[17]. I supposed that aspergilosis might grow inside the body including airways, uterus and intestine. The growing fungi can release their antigen, and cause persistent asthma. This condition may increase with corticosteroids due its immunosuppressive effect of corticosteroids. I performed three independent clinical trial for treatment of these subjects with Itraconazole, and I showed objective improvement in clinical findings, bronchial wall structure (thickness) and FGF-2 as a marker of bronchial remodeling.

In addition to promising result of anti-fungal drugs, I used anti-bacterial agents with good success. The first study was not novel, but showing improvement of bronchial structure

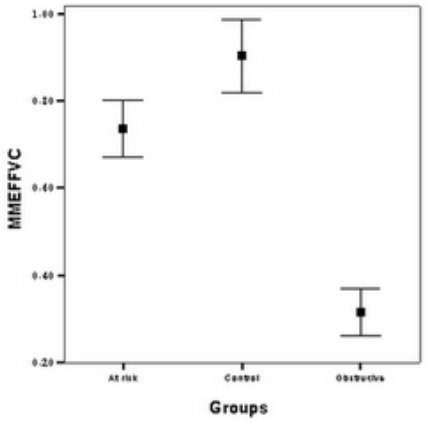
with azithromycin in severe persistent asthma was new[18]. Another study in asthma (Unpublished data) was finished about effect of Doxyciclin in asthma. In this study we prescribe Doxyciclin for newly diagnosed asthma. Result of this study showed better response of standard asthma therapy plus Doxycycline therapy. We believe that this kind of treatment may prevent regression of asthma, therefore we will following them for 5 years to compare the rate of regression of asthma.

4- [Spirometry]

I am interested in most aspects of spirometry and pulmonary function tests. My initial studies was mostly observational studies such as Hypothyroidism, methacholine challenge test, COPD and anthracosis of lung. The most impressive findings on these studies were as follow:

A- Defining the pattern of pulmonary function tests in bronchial anthracofibrosis which showed obstructive pattern with normal DLCO and restrictive pattern in minority of subjects[19],

B- Recalling the missed parameter of "FEF25-75/FVC". This useful parameter shows obstruction in small airways. It is more accurate than FEF25-75 due to correction with FVC. This parameter is useful for acquired obstructive disease such as asthma, COPD and Bronchioloitis obliterans, and also for congenital anomalies in subjects who their airways are more narrow than general population, a pattern called "dysanapsis". Dr M. Mirsadraee evaluated the acuuracy of this parameter for methacholine challenge test[20], detection of COPD at earlier stage[21] and classification



of lung disease[22].

Figure 6- Differentiation of at risk COPD from normal and frank COPD.

These studies showed more accurate diagnosis with FEF27-75/FVC than FEV1 and FEV1/FVC. FEF25-75/FVC (MMEF/FVC) can be obtained by routine spirometry equipment without additional expense and routine spirometry maneuver. In a comprehensive study in COPD subjects he showed a promising results from FEF25-75/FVC which is able to differentiate normal subjects, at risk COPD and frank COPD from each other Figure 6). Therefore FEF25-75/FVC is a better parameter for screening of smoker who like to detect early phase of COPD. This test does not require especial maneuver and the only requirement is considering this parameter in the list of chosen parameter.

In a later study about by me, FEF25-75/FVC was proved to be a proper tool for classification of lung disease as like as body plethysmography (Figure 7).

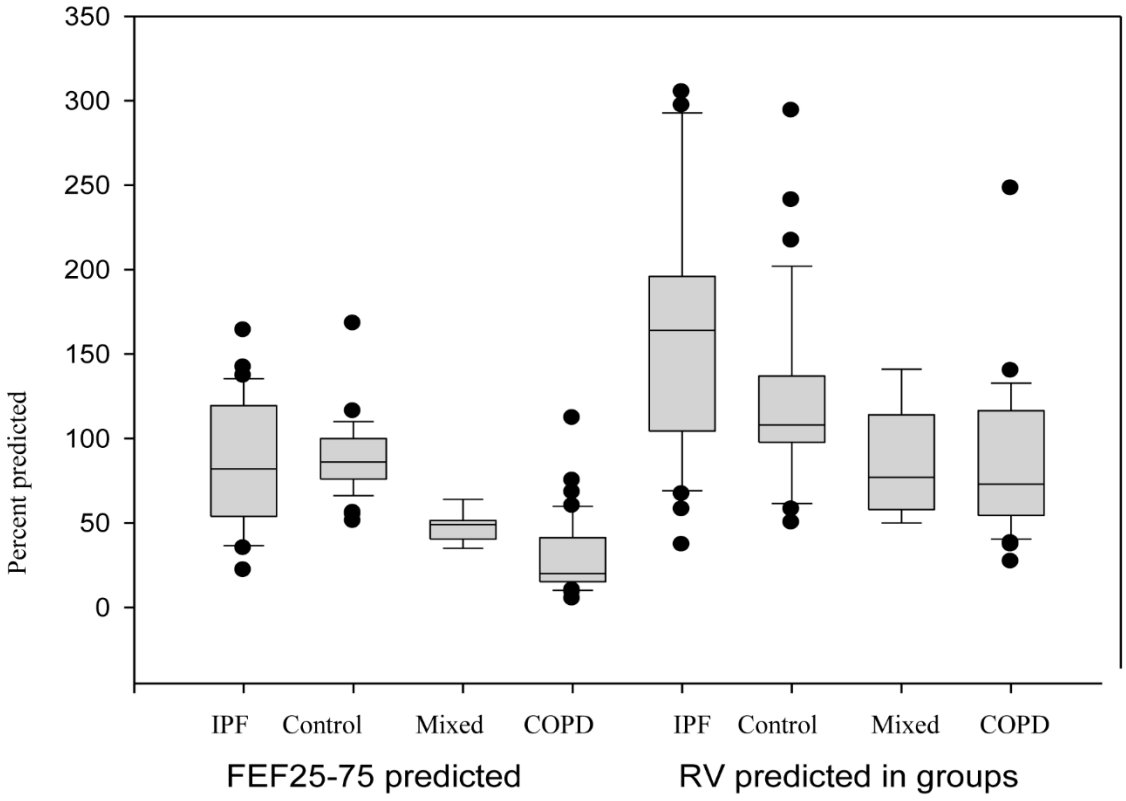


Figure 7- Comparison of FEF25-75/FVC with residual volume for classification of lung diseases.

C- I am conducting a new study which FEF25-75/FVC will be compared with resistance and reactance of airways, evaluated by Impulse oscillometry.

5- [Chemical warfare victims]

The world faced to injury of chemical warfare's which was stopped to use from world war I. I as pulmonologist have many experiences with chemical warfare injury of lung. I was focused on associations of asthma and chemical warfare injury. Although using these

warfare has stopped but the data`s may need be useful because the past experience with chemical warfare may not be able to obtained in peace time period. Here is a list of my published articles.

1. Mirsadraee M, Attaran D, Boskabbady MH, Towhidi M; Airway hyper responsiveness in chemical warfare victims, Respiration 2005;72:523-528
2. Majid Mirsadraee , Hassan Ghobadi-Marallu , Mohammad Reza Khakzad , Shahrzad M, Lari , Davood Attaran , Mohammad Towhidi, Mohammad Khajedalouee, Amir Hosein Jafarian. Level of eosinophilic cationic protein in sputum of chemical warfare victims. Iranian Journal of Basic Medical Sciences May-June 2011. 14(3): 107-115.
3. Majid Mirsadraee- Saeed Naghibi- Amir Hosein Hashemi Attar- Zahra Salehinezhad, Saeed Mirsadraee. Computed Tomography Imaging of Pulmonary Complications of Chemical Warfare Victims. J of cardio-thoracic medicine 2013; 1(1): 2-6.
4. Davood Attaran MD, Majid Mirsadraee MD, Reza Rajabian MD, Masoud Saghafi, Mohammad Khajedalouee, Mohammad Towhidi; Effect of inhaled corticosteroids on bone mineral density in patients with pulmonary complication of chemical warfare, Tanafos (2007), 6(4):25-30

5. Majid Mirsadraee, Abolfazl Mozaffari, Davood Attaran. Prevalence of Asthma in Children of Chemical Warfare Victims, Iran J Pediatr. 2011 Sep; 21(3): 294–300.
6. Majid Mirsadraee; Mohammad Hosein Boskabady; Peak and mid expiratory flow changes during methacholine provocation test in asymptomatic chemical warfare victims; Poster discussion The 9th Turkish Thoracic Society May 2006 Antalya.

6- [Lophomonas Blatterum][23]

Lophomonas Blatterum is a parasite which detected in bronchial specimens. I conducted two clinical trial about this trophozoite and I was able to improve chronic resistant cough and asthma in two separate clinical trials (Unpublished data). This new horizon for asthma and chronic cough worth more evaluation in the lung disease.

7- Observational studies during internal medicine period about thyroid[24], zygomycosis of lung[25], work related symptoms[26], Typhoid[27,28], Hydayid cyst[29,30], esophageal cancer[31], hemoptysis with normal chest X ray[32], pulmonary artery venous malformation[33], bronchial remodeling[34], accuracy of eosinophilic cationic protein for diagnosis od asthma[35], paradoxical bronchospasm[36], calcium channel blockers and asthma[37], sleep disorders[38], pulmonary artery hypertention[39], vocal cord paralysis[40], Toxocara[41].

8- Experimental studies: about Marshallagia[42] and Water pipe[43]

9- Other clinical trials: About cromolyn[44] and COPD[45].

A. Invention: I invented a single-use spacer for use in bronchodilator challenge during spirometry. This invention helps to prevent the transmission of infective agents to subjects who undergo spirometry tests. The cost of this device will be very low, and it won't increase total the cost of spirometry. The invention has been presented to get patented and then will be presented to a company who interested to make it.

B. Xitilol nasal spray- Xylitol, a sugar alcohol containing 5 carbon-polyol, that has used for treatment of resistant chronic rhino-sinusitis with nasal polyposis. I formulated this drug with sodium chloride 0.9% solution for using via nasal spray. This drug is used internationally but is not produced in Iran. I am going to get a patent of this formula in Iran patent registry.

C. Single used ear cleaning kit- I innovated a pack of five instrument for washing ear vax. Ear washing is usually performed in ear clinics, but for frequent user, by this pack, any patients are able to clean ear vax at home without need of aid. The materials are not new, but the pack and its usage are new.

10- Persons who influenced much on character of me

1- My father: Learning how to live for my own purpose.

2- My wife: Learn to live

3- My aunts: Growing my primarily character to a civilized character.

4- Dr Mehdi Khadivizand (Psychologist): Treatment of my obsessive manner.

5- Dr Mohammad Hosein Boskabady: Teaching how to grow in international

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