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Lexical Considerations Regarding Interventional Pulmonology: An Opinion

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The definition "Interventional Pulmonology" was officially introduced in 2001 in a paper published by Luis Seijo and Dan Sterman[1]. While in the paper the term "Interventional Pulmonology" was limited to define *"advanced bronchoscopic and pleuroscopic techniques for the treatment of a spectrum of thoracic disorders"*, such as rigid bronchoscopic debulking and stenting, balloon dilatation, endobronchial laser/cryo/electrocautery/brachitherapy, in the immediately following years the meaning of this definition has expanded. Today, we include in the definition of Interventional Pulmonology all the invasive or semi-invasive procedures performed by pulmonologists not only for therapy but also for diagnosis of respiratory diseases (bronchoscopy and related techniques, thoracoscopy, thoracic drainage insertion, percutaneous biopsies, pleural biopsies, percutaneous tracheostomy). In a joint ERS/ATS document [2], Interventional Pulmonology was defined as "*the art and science of medicine as related to the performance of diagnostic and invasive therapeutic procedures that require additional training and expertise beyond that required in a standard pulmonary medicine training programme*".

This term was immediately successful and has been widely accepted by the Scientific Community. The most important Scientific Societies involved in the field of thoracic endoscopy changed their name and added "interventional pulmonology", like Word Association for Bronchology (WAB) which became WABIP, European Association for Bronchology (now EABIP), American Association for Bronchology (now AABIP). Even the previous Journal of Bronchology, in 2009 became Journal of Bronchology & Interventional Pulmonology (JOBIP). In the last years several books titled "Interventional Pulmonology"[3] were published, and in the chapters of these books all the diagnostic and therapeutic techniques related to bronchoscopy and thoracoscopy are included.

The main reasons for the success of this definition are three: 1) the previously used term of "thoracic endoscopy" is an understatement since "endoscopy" means "to look into" (from greek "endoscópesis", a compound word consisting of "éndon", which means inside and "scopeín", which means to watch carefully). Today, most bronchoscopic/thoracoscopic procedures involves some kind of maneuver or sampling and are not limited to exploration; 2) some pulmonary interventional procedures are not based on endoscopy (like drainage insertion, percutaneous biopsies); 3) the definition "Interventional Pulmonology" underlines and emphasizes the role of the pulmonologist as the professional figure with the competences and the knowledges to perform such procedures and reiterates that this field of medicine belongs to the pneumological specialty or to the Colleagues that are involved in the diagnosis and treatment of respiratory diseases.

Other specialties arrived before Pulmonology to understand the importance of qualifying an area of their competence with the term "interventional". The diction of "Interventional Radiology" was coined in 1967 by Alexander Margulis[4], Director of Radiology Department at the University of San Francisco. A little later is the birth of "Interventional Cardiology" by Andreas Gruenzig from Zurich[5], which in 1974 extended the use of percutaneous angioplasty to coronary arteries, revolutionizing the therapy of ischemic heart disease.

If it is true that the term "Interventional" has been widely accepted, it is equally true that there is some terminological confusion, and frequently definitions such as "interventional bronchoscopy", "interventional bronchology", "operative bronchoscopy", "advanced bronchoscopy" are encountered.

What does it mean "Interventional bronchoscopy"? In the book "Interventional Bronchoscopy" edited by Chris Bolliger and Praveen Mathur[6], interventional bronchoscopy is defined as "*all aspects of diagnostic and therapeutic bronchoscopy, which go beyond the techniques of inspection, simple lavage and biopsies of the tracheobronchial tree*". But, if we look at some books, some papers and some internet web sites, we find that this definition is sometimes used to describe complex therapeutical procedures (laser resection, electrocautery, cryotherapy, stenting, photodynamic therapy)[7], but at other times it includes also diagnostic procedures (TBNA, EBUS-TBNA, electromagnetic navigation, bronchoscopy in hemoptysis)[8], and even BAL and endobronchial biopsy[9].

The term "interventional" in medicine, according to the Cambridge Dictionary, is "the act of intervening, interfering or interceding with the aim of modifying the outcome". According to this definition, even a simple bronchoscopy aimed to verify the condition of the airways may modify the diagnosis. To introduce an instrument into the airways is always an intervention. In other words, bronchoscopy is a procedure that in any case belong to Interventional Pulmonology. The same concept can be applied for the term "operative bronchoscopy".

Concerning the term "advanced bronchoscopy", it could be confusing, since the burden between basic and advanced bronchoscopy is blurred. What today is an advanced technique, could become basic in the future (TBNA was an advanced technique in the '80s, today it is considered basic; today robotic bronchoscopy is an advanced technique, but maybe it could become routine and basic in the future); furthermore, what is advanced for somebody could be basic for others.

In conclusion, my opinion is that bronchoscopy is always an operative and interventional procedure, even when performed for simple diagnostic purposes. I suggest to employ the definitions of diagnostic and therapeutic bronchoscopy, both included in the field of "Interventional Pulmonology". Let's leave the precious adjective "interventional" to our pulmonology specialty.

I hope that a discussion on this issue will take place in our Association and that a standardization of the terminology used in Interventional Pulmonology will be reached.

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Bronchoscopy Interventions for Recurrent Respiratory Papillomatosis

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Introduction

Recurrent respiratory papillomatosis (RRP) is a disease caused by infection of the respiratory tract with human papilloma virus (HPV) subtypes 6 and 11 [10]. RRP has an estimated incidence of 1.8 cases per 100,000 adults in the United States [2, 13]. Occasionally, papillomas undergo malignant transformation [1]. While vaccination could prevent development of RRP, once the papillomas develop, current standard of care is removal via debridement or ablative therapy, most often bronchoscopically when present in the trachea [1, 5, 11]. These means include laser, argon plasma coagulation, microdebrider, and photodynamic therapy [1]. Herein we outline the most common approaches to bronchoscopic intervention for RRP.

Indications, descriptions, techniques, and complications for specific RRP interventions

Indications for surgical management of tracheobronchial papillomatosis, in this case bronchoscopic intervention, largely relate to maintaining airway patency and/or palliation of symptoms thought to be related to the presence of papillomas (e.g. stridor, wheezing, recurrent pneumonia, and dyspnea) [1]. All modalities listed below are effective at achieving this endpoint, albiet with differing technical aspects and complications. Remission is unpredictable and re-intervention is common [11].

Laser

There are several laser systems that have been used in the treatment of RRP, all allowing for application of thermal energy which desiccate and coagulate the tissues and minimize bleeding. Currently, carbon dioxide (CO2) laser is the preferred method of papilloma removal in the otolaryngology practices, however other lasers including neodymium:yttrium aluminum garnet (Nd:YAG), potassium titanyl phosphate (KTP), have also been used [5, 7, 15, 16] and offer similar characteristics and rates of remission [1].

Technique for application of laser includes use of a flexible quartz fiber advanced through a flexible or rigid bronchoscope. Given the risk of airway fire, FiO_2 during laser operation should be decreased to <0.4. Specialized ET tubes for laser have also been developed to minimize complication of airway fire should a flexible bronchoscope be used. Care should be taken to maintain laser orientation coaxial to the tracheal lumen as laser penetration into tissue can vary with different systems [7]. Other complications include airway perforation and airway stricture, incidence of which are thought to be lower with CO2 laser compared to other modalities [1].

Argon Plasma Coagulation

Argon plasma coagulation (APC) is an ablative therapy that uses a tungsten wire to deliver a spark to insufflated argon gas which causes ionization. The ionized gas creates an electrical arc to the nearest ground, in this case the tissue nearest the probe tip. The plasma causes an ablative, vaporizing, and coagulation effect from the applied thermal energy. It has been used for the treatment of airway papillomas successfully since 1997 [3].

Technique includes introduction of a flexible APC probe via a flexible or rigid bronchoscope. Similar to laser, airway fire is a concern at high oxygen content, thus care should be taken to only apply APC at FiO2 <0.4. Separation of the probe from the target tissue by a small distance, <1cm, is necessary to achieve a plasma arc. Thus, APC should be considered a non-contact ablative therapy. Rare complications include airway burns and perforation, and very rarely, gas embolism. Overall complications are thought to be rare (3.7%) [12].

Microdebrider

Microdebriders are considered an alternative to thermal energy techniques such as laser or APC. The device uses a rotatory cutting cup at the tip of a rigid suction catheter to facilitate rapid tissue removal [4]. Microdebriders have been compared with CO2 laser in prospective manner and found to be equally safe and effective, with potentially lower procedural cost [8].

Technique includes introduction of the rigid microdebrider device via rigid bronchoscope as currently there is no flexible option. Suction is applied and contact with target papilloma facilitates cutting and removal of tissue. Because tissue removal occurs without thermal energy, there are no ventilatory or FiO2 requirements for use and airway fire is not a concern [4,8]. However, because tissue is cut and removed directly without thermal coagulative effects, bleeding is of concern, and it often requires thermal energy for its control.

Photodynamic Therapy

Photodynamic therapy (PDT) is a technique that uses an infusion of a photosensitizer, porfimer sodium or Photofrin, prior to application of 630 nm red light [6]. The photosensitizer preferentially is retained in the papilloma cells and when activated by red light, produces oxygen free radicals leading to cytotoxic damage and death [10]. While most data published to date relate to its use in the larynx, a recent multicenter retrospective case series outlined its use as safe and effective for bronchoscopic use in tracheal lesions [6].

Technique includes infusion of porfimer sodium, 2mg/kg, 48-72 hours prior to bronchoscopic intervention [6]. A flexible 630 nm red light catheter is introduced via flexible bronchoscopy near the target papilloma. The papilloma is then exposed to red light for several minutes. Cellular death results in sloughing of affected tissue over the following days to weeks (Figure). Repeat flexible and/or rigid bronchoscopy for debulking and cleaning of the affected area is necessary to prevent airway obstruction from denuded tissue. Complications arising from PDT are thought to be relatively rare, however include photosensitivity reactions, airway obstruction, airway perforation, and potentially airway stricture [6].

Other considerations

HPV genomic DNA has been detected in the plume created by laser ablation of papillomas [1]. Thus, it is recommended that for ablative therapies, such as laser or APC, appropriate precautions and PPE be used by healthcare providers to reduce the risk of coinfection. Apneic anesthesia and minimal use of jet ventilation may reduce airborne transmission.

Conclusions

There are several modalities for bronchoscopic intervention which have been demonstrated to be safe and effective for treatment of tracheal or airway RRP. Selection of technique should be individualized based on operator experience, local resources, and patient factors for minimizing potential side effects. Repeat intervention is very often necessary and multiple approaches may be applied in a single patient.

Figure

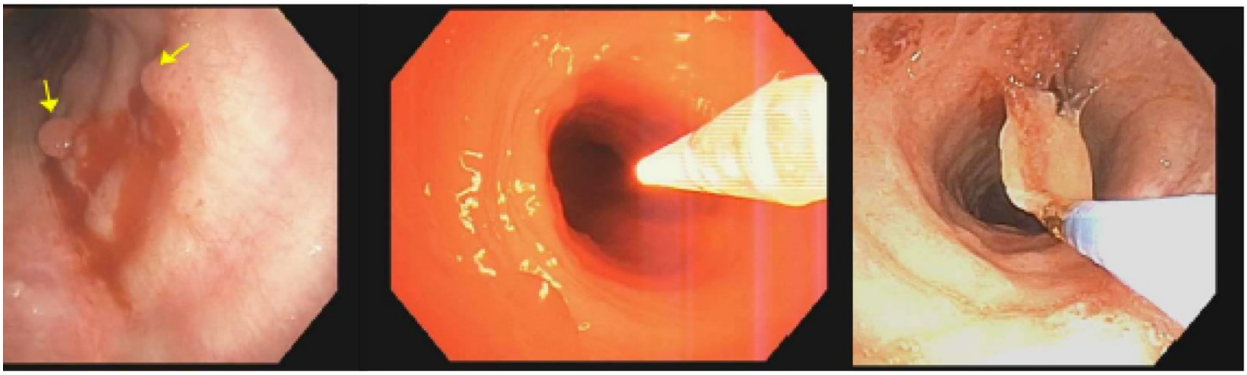

Figure Legend

A cluster of lower tracheal papilloma lesions (left panel). Biopsies showed papilloma and transformation to squamous cell carcinoma in situ. PDT was performed with a 1 cm rigid fiber, 200 J/cm, adjacent placement (middle panel). At 48 hours post light application, there was airway edema with minimal sloughing of necrotic material, removed using forceps (right panel).

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The COVID-19 Vaccine Patent Waiver: An Action to Advance Equitable Access to Medicines?

"Health is a fundamental human right indispensable for the exercise of other human rights. Every human being is entitled to the enjoyment of the highest attainable standard of health conducive to living a life in dignity."
Committee on Economic, Social and Cultural Rights - General comment No. 14 on the highest attainable standard of health

As specified in the General comment no. 14, the right to health is an inclusive right. It extends not only to timely and appropriate health care but also to the underlying determinants of health, such as: access to safe and potable water and adequate sanitation; an adequate supply of safe food, nutrition and housing; healthy occupational and environmental conditions; and access to health-related education and information.

Health equity relates to the fairness in distribution of health resources and outcomes. This applies both to equity between citizens in specific countries as well as between countries. There is general consensus amongst scholars, political bodies, opinion leaders and general population that solving these inequities—the huge and remediable differences in health between and within countries—is a matter of social justice, essential for the linked concepts of fairness, justice, and freedom.

However, much before the beginning of the COVID-19 epidemic, it was obvious that at a national and global level, that objective of increasing equality could not be further from reality. Historically, ethical principles in health policy have often been disregarded for vulnerable groups, with the distribution of life-saving drugs considered too expensive and unsustainable and the recipients deemed unfit and unworthy. The Alma Ata Declaration could not expose it more clearly "*The existing gross inequality in the health status of the people, particularly between developed and developing countries as well as within countries, is politically, socially, and economically unacceptable and is, therefore, of common concern to all countries*". But more than 40 years later little real action has been taken.

The problem is not new, but in Anthony Fauci's words, the pandemic "*shone a bright light on our own society's failings*". During this pandemic, unacceptable disparities intra and inter-countries have achieved their highest levels in the modern era and have highlighted the serious adverse effects of using an unfettered market-orientated approach to health development.

The ethical distribution of life-saving medical and public health interventions amongst vulnerable groups has rarely been respected. Factors as estimating how much lives are worth linked to an individual's country of origin, the pharmaceutical industry's prioritisation of profit, the manipulation of vulnerable groups in clinical trials made the human right to health unattainable for many people. The COVID-19 pandemic was an opportunity to remediate that long-standing history of unethical practices in global health by making a safe, effective vaccine accessible to all initiating a new era of global health more oriented to ethical decision making.

At the beginning of the pandemic, vaccine companies such as Pfizer stated that they would make sure low-income countries "have the same access [to the vaccine] as the rest of the world." Yet what we are seeing today is a massive global disparity in the allocation of available vaccines.

High-income countries, representing just 20% of the global adult population, have purchased more than half of all vaccine doses, resulting in huge disparities of available doses. Of the remaining doses, 33% have been purchased by low-middle income countries (LMIC), who account for 81% of the global adult population; and 13% have been by COVAX. Wealthy countries such as the U.S., Canada, UK and others formalized bilateral agreements with the companies producing the vaccines in order to their assure their position at the front of the line well before the vaccines were available. Those strategies to secure preferential access, may be understandable within the national context, but clearly jeopardise supplies for other countries.

As an example, the COVAX initiative was established to assure and equitable distribution of vaccines but its goal was never achieved as vaccine nationalism shown by countries' decisions to accumulate vaccines and inoculate groups that are not at

high risk (as teenagers) has substantially reduced the availability of vaccines. It is estimated that most of low-incomes countries will not be vaccinated until the last month of 2023.

It may be argued that If the pharmaceutical companies putting in years of research and development are based in and supported by high-income countries, those countries have a right to receive their products first, but having vaccines to cover low risk population when most countries don't even have enough vaccines to protect their health care workers or their elderly populations seems difficult to justify from an ethical point of view. Beyond the global interest of reducing variants, the moral imperative to provide a fair distribution of vaccines cannot be ignored.

These deals do not only talk about nations or regions prioritising their citizens. Most of all, these negotiations remark the power of patent-holders. That power allow large pharmaceutical companies to make decisions of high public impact about access to vital lifesaving healthcare, and at what price.

Patents are generally seen as necessary incentives for the development of medicines. However, the COVID epidemic has brought to light many questions that need be asked around the extent of that control in the hands of private patent-holders. For example, it is known that the research and development by pharmaceutical companies is largely supported by government subsidies, which makes the price cited for most medical products multiple times the real production cost. Considering that subsidies given by governments to pharmaceutical companies are financed with the taxes paid for by citizens (including vulnerable groups), this unreasonable pricing of drugs and vaccines is of dubious morality and denies vulnerable groups their right to health. In fact price practice turn most pharmaceutical firms into the most profitable companies compared to other industries.

The World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) has clearly stated that while efforts to protect the intellectual property rights of innovating companies has encouraged investment in drug discovery, the creation of the 20-year patent for new drugs has meant that many poor people all over the world have not been able to afford them. This unfairness was patently evident during the 1990s when life-saving antiretroviral drugs were initially denied to those in developing countries because of the unreasonably high costs of the drugs. Patent-holders can even refuse licenses to third parties to produce a patented medicine transforming the patent-holder in the only provider of that medicine resulting in dangerous limitations for its supply. It also impact the price of a medicine as patent-holders can charge high prices for licenses or access.

In order to decrease the unfairness of distribution between rich and poor countries, many organizations, academic leaders and even policy makers have urged to take concrete actions. Amongst the possible solutions is a vaccine patent waiver, which was proposed by India and South Africa back in October of 2020. This would allow other companies, including those in developing countries, to make generic brands of existing vaccines. The intellectual property temporary waiver proposal would allow countries to choose not to apply or implement patents and other exclusivities that could obstruct the production and supply of COVID-19 medical tools, until global herd immunity is reached. After the initial proposal of India and South Africa in October 2020, now the proposal is officially endorsed by 58 sponsoring governments, and 100 countries supporting the proposal overall.

However a small number of wealthy countries, as the U.S. , the European Union, UK, Japan, and Australia amongst others, opposed the proposal. In a remarkable decision, on May 5th, United States President Biden decided to change U.S. policy, backing the proposal.

Maintaining patents is ethically unacceptable as it means deliberately refusing to help countries in desperate need and violates the principle of beneficence (doing good for others), justice and non-maleficence (not creating harm for others) and it results in concrete consequences as the occurrence of evitable deaths. This is because vaccine patents, which are a form of intellectual property (IP) rights, lead to create monopolies that contribute to increased prices and decreased access. This injustice has been described as '*vaccine apartheid'* because it creates obscene disparities in vaccine access.

Under international trade law, mechanisms exist for States to issue compulsory patent licenses – following certain criteria and in specific circumstances. Compulsory licenses allow the State to grant permission to a third party to produce the patented invention, e.g. medicine, without the patent-holders consent.

Waiving patents is not a radical or new proposal and it would not be the first time that patent waivers were allowed. In 2001, the "Doha Declaration on TRIPS and Public Health" eliminated patents on drugs for HIV, allowing for cheaper produc-

tion and more affordable products. It was also the case during the 1980's with the hepatitis B vaccines. However traditionally, countries have been reluctant to use compulsory licenses because of the strong industry opposition. But in the devastating context of Covid-19 many social actors are urging for change. Some countries have adopted legal measures to facilitate compulsory licensing where needed for Covid-19 and other States should follow soon. However, in general, compulsory licensing is not complete and timely enough for COVID-19 vaccines: it is a slow mechanism as it requires separate negotiations between countries and companies, and mainly because would not provide access to key elements in production such as trade secrets, it maintains barriers for collaboration and import and export of products and materials and does not cover future vaccines. The waiver would remove any obstacles for global vaccine production, present and future. However, in the light of the opposition, it seems that without a strong international movement and direct pressure, that sort of action is unlikely.

Under the 1995 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), pharmaceutical companies have at least 20 years from filing a patent to profit from their investments in developing pharmaceutical products throughout the world. Global IP rights, whether adopted in accordance with TRIPS, or subsequent bilateral and multilateral agreements, are part of a wider legal system which facilitates that powerful actors such as the European Union (EU) and the USA have included TRIPS-plus clauses that often force countries of the Global South to concede to more stringent patent protections in order to gain trade advantages and also to escape trade sanctions. In so doing, IP law commodifies medicines that are essential to human survival and well-being, and sacrifices the lives and health of the poor and vulnerable in order to prioritize corporate profitability. That comes from the common interpretation by the international IP system that healthcare products and services derive their value from their tradability and not from their nature of public goods.

The World Trade Organization (WTO) Doha Declaration on TRIPS and Public Health recognizes human rights and allows states to use all of the 'flexibilities' within the TRIPS regime to protect public health, agreeing on the need for access to medicines in a public health emergency. However, this international consensus on employing TRIPS flexibilities of IP has always been strongly contested by pharmaceutical companies and their host governments and even during this pandemic the attempts of LMIC to try to obtain a TRIPS waiver to increase their supply of vaccines have been unsuccessful.

Critics of a waiver argue that this process would not create rapid increase in supply, because the complex manufacturing processes and the length of time it takes to build new factories are amongst the major obstacles to increasing the global supply of vaccines and so, patents are not the limiting factor. It is also said that competition for access to the raw materials could slow the already working production and even results in decrease of supply. And of course they claim that if companies have no profit incentive to create these new health care products, then we may see a drop in the investments of the pharmaceutical firms. This later seems a more than questionable argument taking into account the magnitude of billionaire profits of the pharmaceutical companies. Moderna's share price has gained more than 700% since February 2020, while BioNTech has surged 600% and CanSino Biologics' stock is up about 440% over the same period. For example it is expected Moderna to make $13.2 billion in Covid-19 vaccine revenue in 2021. It must be kept in mind that vaccine production was possible because the company has received billions of dollars in funding from the US government for development of its vaccine. It means that in most of the cases, the financial risk of developing the vaccines was effectively carried by the taxpayers, funded by public money which makes at least somewhat dubious that they are only property of these companies and could be freely used to deliver these enormous profits.

Voluntary licensing is offered as an alternative. However, arrangements where patent-holders voluntarily license their patents freely on reasonable terms are needed. Precedents cautions not to let our hopes run too high about those voluntary contributions. As Yuanqiong Hu, Senior Legal and Policy Advisor at MSF's (Médecins sans Frontiers) Access Campaign said. "*Governments that oppose the monopoly waiver proposal know that simply asking pharmaceutical corporations to voluntarily do the right thing will not get us anywhere, when these attempts have so far failed to secure global access to COVID-19 medical tools for people who urgently need them. It's time for change, not charity*".

Potential options to patent waiver could be to increase direct patent licensing, allowing the firms producing vaccines to partner with specific companies to increase production while still protecting their intellectual property. Additionally, exporting existing vaccines could alleviate the shortage of vaccines in some countries. At May 2021, the U.S. had donated only around 1% of the vaccines it has produced although President Biden has recently pledged to donate 20 million U.S.-made vaccines. On the other hand, many middle-income countries like China and Russia or low-income countries like India have already exported a significant proportion of their vaccines to other countries.

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Vaccine donations are not the solution to the scarcity of COVID-19 vaccines in many countries. Yet, the potential number of surplus vaccine doses purchased by wealthy nations are sufficiently large to help with near-term vaccine demands while investments are made in technology transfer to LMICs and in scaling up global manufacturing capacity for vaccines. Maximizing the potential of vaccine donations in this pandemic depends on vaccine doses going where they can do the most good, but there is no full agreement where they should go. COVAX has been criticized for its population-based allocation scheme that does not direct most of its early vaccine supplies to the settings at the greatest risk of otherwise having high COVID-19 death rates. But even if Covax in the most optimistic scenario, succeeds in reaching its targets, only 20% of people in low and middle income countries (LMICs) will be fully vaccinated by the end of 2021, because those planned targets were very modest based on a "scarcity mindset"—expecting that total global doses would be limited and rich nations would likely hoard the supply. But the rapid development of several vaccines allowed the rich nations to buy more doses than they could ever use and are not sharing with anyone. Canada has procured enough doses to vaccinate all its citizens 10 times over. UK could vaccinate everyone in the UK eight times over.

On the other hand, nations donating COVID-19 vaccines bilaterally have used their donations (as any international bilateral cooperation) more as a means of political influence than advancing global vaccine equity and saving lives. It is imperative that donor countries keep the commitment of grounding future COVID-19 vaccine donations in epidemiology and not geopolitics.

But even when donations are the quickest way to increase availability of vaccines they are not enough. Donations are a charity model and after the ''gift'' is over the vaccine supply dilemma remains. It is imperative to create a sustainable model for LMICs to be able to make their own vaccines to ensure population-wide vaccination soon enough to prevent thousands of deaths. The model of donations rather than allowing for equitable vaccine access as a basic human right for all people everywhere, turned to a charitable donation and market purchase scheme through the COVAX initiative. This type of model, which focuses on charity and not rights, keeps the colonial ideology', in particular by addressing the untold idea that to be colonized was to be inferior. Vaccine access should not be a question of charity but of states fulfilling their human rights commitments under international law.

A waiver of intellectual property protections on covid-19 vaccines, including on their components and raw materials is an urgent first step that must be taken soon. It will need to be reinforced by transfer of technical knowledge from vaccine makers in the global north to regional hubs or directly to manufacturers in the global south and by the financial help needed for wide subsidization of manufacturing in LMICs.

The People's Vaccine Alliance, a grouping of several non-profit, non-governmental organizations including Global Justice Now, Oxfam and Amnesty International, is calling for the pharmaceutical firms to share their technology so that global production of vaccines can be quickly increased, claiming that the scarcity of vaccines is artificially created by these monopolies, and that there is enough space for these companies to make a more than decent return instead of obscene profits that create a few new billionaires. Additionally Dr Christos Christou, MSF International President has claimed that "*Countries must stop obstructing and show the leadership required to deliver on the 'global solidarity' they have so often declared during this pandemic". "It's time to champion access to medical tools for everyone, wherever they live*."

International human rights law provides a universal framework for advancing global health with justice, transforming moral imperatives into legal entitlements. The right to the highest attainable standard of health, first articulated in 1946 in the WHO Constitution, has evolved through the progression of treaties such as the International Covenant on Economic, Social and Cultural Rights (ICESCR). Nearly every country in the world has now ratified at least one international agreement that imposes specific obligations that lead to the realisation of the right to health, including explicit obligations to prevent, treat and control epidemics.

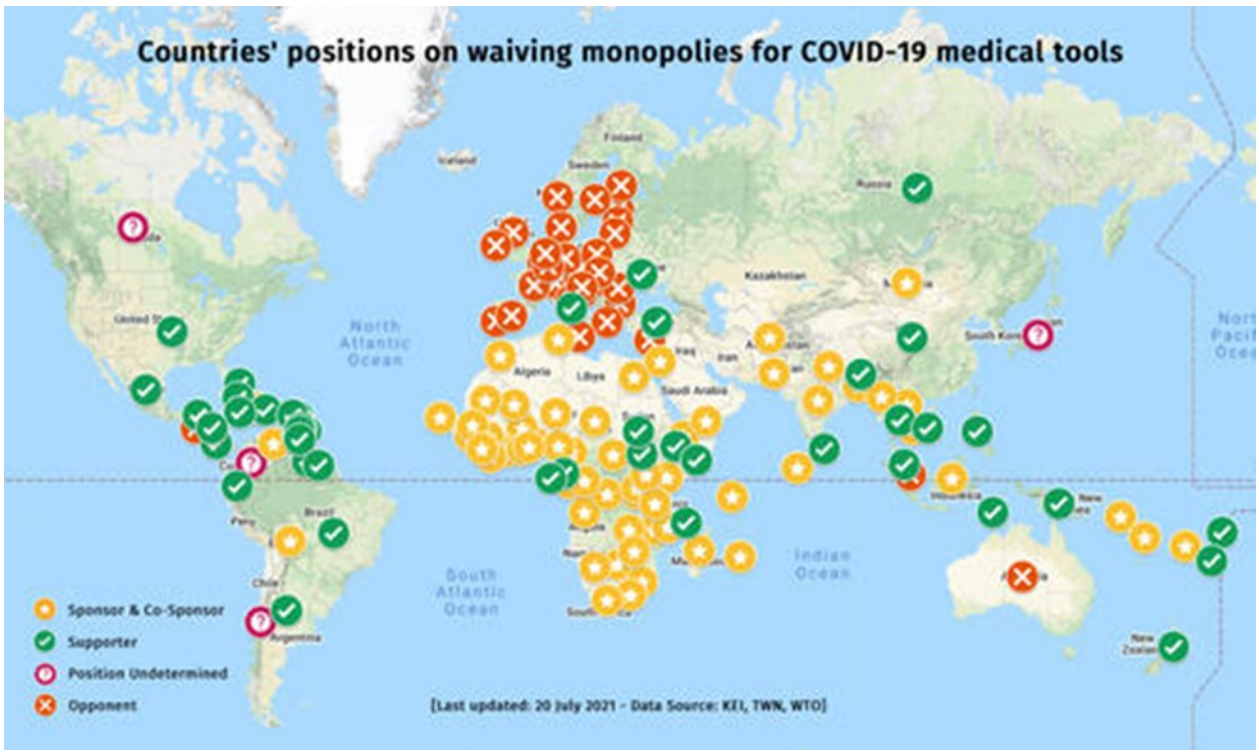
The United Nations (UN) Committee responsible for interpreting the ICESCR, has emphasized that states '*have a duty to prevent intellectual property and patent legal regimes from undermining the enjoyment of economic, social and cultural rights'*, *and that the IP regime should be interpreted and implemented in a manner supportive of the duty of states 'to protect public health*'.

Arguments to defend IPRs simply do not hold. The protections of IPRs to the vaccine companies are causing health and socioeconomic suffering globally, rather than alleviating them. Delaying vaccine access for billions of people threatens the continuation of the pandemic and development of new dangerous variants.

Humanitarian News

The inequalities and injustice concerning access to vaccines and medical supplies needed during COVID pandemic do not occur out of the blue. The commodification of essential medicines is the consequence of the prevalent system of global capitalism that allows manufacturers and states to value financial profit over human life. The worsening of inequality crisis triggered by COVID-19 is framed by the economic model and has meant an increase in poverty, unemployment and a colossal suffering for millions of people while, at the same time, allowed some of the world's largest corporations to get billions of dollars in profits to shareholders then increasing the gap between rich and poor in an unprecedented magnitude. COVID-19 should be the opportunity for radically restructuring business models (at least in health care) with the purpose of granting a decent status of wellbeing for everyone by creating an economy for all. It is necessary to keep in mind that we are able to live together because all the members of the society (having rationalized it or not) have signed the basic covenant, the social pact, to come together and form a people, a collectivity. That is the foundation of democracy, the collective renunciation of the individual rights and freedom that each one would have in the State of Nature, in order to design authorities directed to the get the good of all considered together. That social contract includes the idea of reciprocated duties: the authority is committed to the good of the individuals who constitute it, and each individual is likewise committed to the good of the whole. That social pact requires the collective perception that each individual is really getting from the authority the preservation of their wealth, the protection of their lives, liberty, and well-being in general, Locke easily imagine the conditions under which the contract with the government or the economic and political elites is destroyed, driving men feel justified in resisting the authority. It has been well said "*Let no man pull you so low as to hate him*" but the imperative of our time is "*Let no man pull him so low as to hate you".*

The time for declarations and pompous words is over. It is urgent to act and prevent suffering and death for thousands and thousands of people. And it will not be done without understanding that the pandemic is not over until it's over everywhere.



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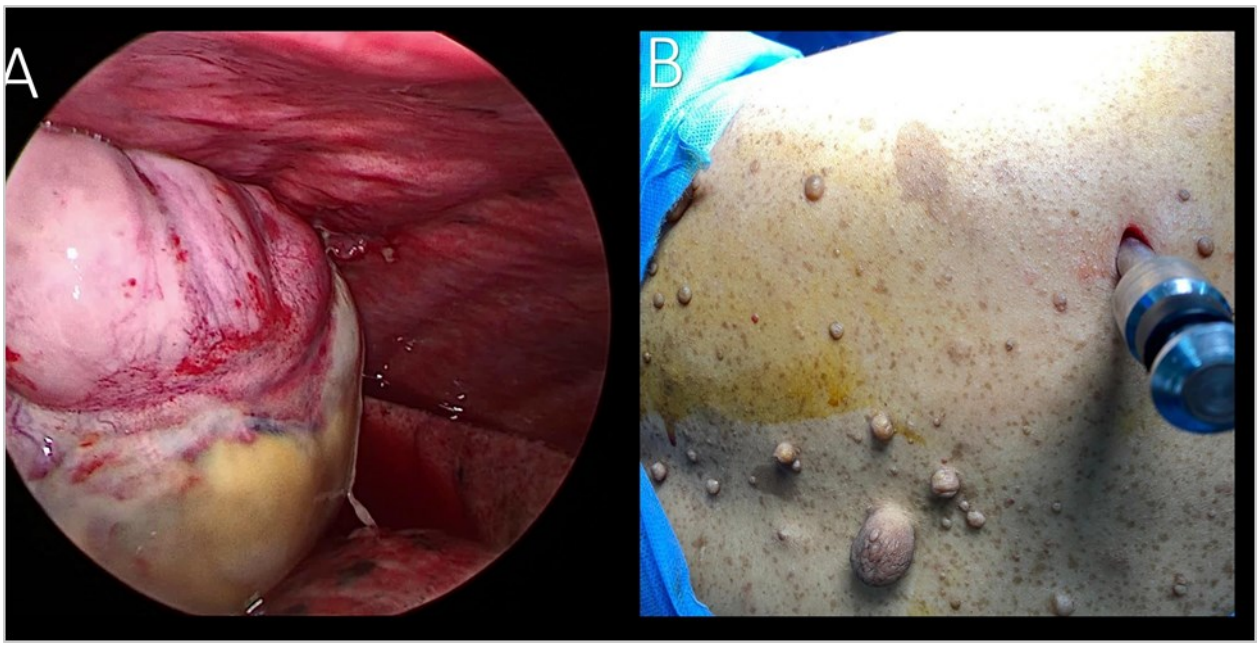
**The views expressed in this article are those of the author (Silvia Quadrelli) and do not necessarily reflect the official positions of the Executive Board or International Board of Regents of the WABIP.*

Best Image Contest

Best Image Contest 2021 (3 of 3)



Description:

Malignant Peripheral Nerve Sheath Tumor involving the pleura (A) in patient with Neurofibromatosis (B)

Submitters:

Dr. Syeda Samia rasheed, Dr. Varun, Dr. Tiyagesh, Dr. Hari Kishan Gonuguntla

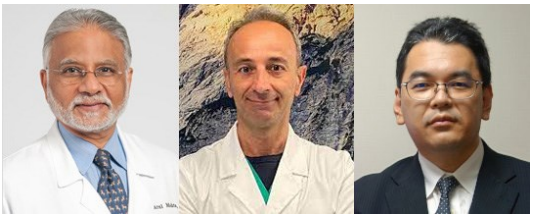
[Division of Interventional Pulmonology, Yashoda Hospitals, Hyderabad, India]

This image is the 1 of 3 selected among 100+ submissions to our **Best Image Contest** held in late 2020. Please stay tuned to the next Image Contest opening later this year! Find the above image and more at the WABIP Academy Image Library at https://www.WABIPacademy.com/imagelibrary

WABIP News

New EBUS-TBNA Section

Thank you to all those who applied for this new WABIP section. We are happy to announce 110 people joined from over 30 countries. Furthermore, we are pleased to welcome Dr. Atul Mehta, Dr. Rocco Trisolini & Dr. Takahiro Nakajima as section coordinators. Under the auspices of these three, the section will embark on many new projects and activities that improve WABIP members' knowledge and technical skills of EBUS-TBNA. Please visit the section page at https://www.wabip.com/ebus for all the latest news & updates from the section.



New section coordinators:
Dr. Atul Mehta, Dr. Rocco Trisolini, Dr. Takahiro Nakajima

Invitation to WCBIP 2022 Marseille, France

Hideo Saka, MD (Chair WABIP), Philippe Astoul, MD, PhD (President WCBIP), Hervé Dutau, MD (President WCBE)

We would like to cordially invite you to join us in MARSEILLE, France, for the 22nd WCBIP/WCBE from October 6th to 9th, 2022.

Organized by the WABIP and IBES, our biennial international meeting is dedicated to Bronchology and Interventional Pulmonology and will offer high-caliber scientific programs with emphasis on new bronchoscopy techniques, technologies and hands-on procedure workshops in which you can meet and collaborate with colleagues from all around the world.

The pandemic has changed the format of conferences in general. And as we have seen in our most recent WCBIP, purely virtual events can be just as successful as traditional ones. The 22nd WCBIP shall be a "hybrid" event that will adopt this new format of meetings while accommodating those who can be on-site in beautiful Marseille, France.

In this congress, we will reinforce the importance of interventional pulmonology in this ever-changing world. Indeed globalization marks a break in physical space and a break in communication times that permeate our daily lives and medical practices. We will maximize communication technologies to offer equal education regardless of attendees' places of participation. This presents a great opportunity for our 10,000 worldwide WABIP members to get all the latest information regarding advances in technologies, education, and research in the field of lung airway and pleural disorders through our numerous didactic lectures, interactive sessions, and expert panel discussions.

We warmly welcome you in Marseille in October 2022 for this exciting event to share scientific expertise, but also to meet friends and enjoy the gentle and sincere hospitality of the people by the Mediterranean Sea. Visit the congress site at https://www.WCBIP.org

Navigation Bronchoscopy Webinar 2021

We are pleased to announce our Navigation Bronchoscopy course is now being offered as a Zoom webinar and for FREE to all WABIP members. Under the direction of Dr. Erik van der Heijden and team, this 2-day webinar will cover:

- The identification of patients suitable for navigation bronchoscopy
- The design of clinical work-up that should enable a navigation bronchoscopy program
- Distinguishing the different navigation guidance techniques, pro's and con's
- Performance of different navigation bronchoscopy techniques
- Interpretation of navigation technique results and drawing conclusions

Registration starts in early November 2021. Please visit https://www.wabip.com/navigation for more information.

Research

Don't Listen To The Person Who Has The Answers, Listen To The Person Who Has The Questions! (Albert Einstein)

Lung cancer staging is paramount in determining the therapeutic approach, especially surgery vs. no surgery. Nodal staging is one of the critical components of staging and perhaps the most controversial one due to the sampling of the precise locations or lack thereof.

The current guidelines from the American College of Chest Physicians for mediastinal staging for peripheral clinical stage IA tumor (negative nodal involvement by CT and PET) suggest that invasive pre-operative evaluation of the mediastinal nodes is not required (Grade 2B).

Nonetheless, studies have shown that CT and PET negative nodes can be positive with invasive sampling such as Endobronchial Ultrasound-guided Transbronchial Needle Aspiration (EBUS-TBNA) in upwards of 10% of the patients with peripheral T1 disease. Other studies have concluded that N2 and N3 disease is seen in up to 11-13% of the patients with T1 lesions.

One must wonder why such high nodal positivity in the ipsilateral and contralateral nodes with small peripheral lesions. One of the possible confounding factors might be the "definition" of peripheral vs. central lesions. Different authors have used different definitions of peripheral, including distance from the pleura, distance from the mediastinum, medial and lateral thirds, etc. The question one must ask is, considering similar growing data, is it safe to not perform invasive staging of the mediastinum in patients with T1 peripheral lesions or to revisit the current staging strategy?

A recent study by DuComb et al. published in May 2020 CHEST (1) looked at the prevalence of N2/N3 diseases in the radiologically occult mediastinum with T1 tumors (cT1N0M0) in non-small cell cancer (NSCLC). The authors used the National Lung Screening Trial data. They used X, Y, and Z coordinates (Fig 1) from the main carina to evaluate the centrality of the nodule. This is a relatively novel and objective technique. They found no association between nodule location (central or peripheral) and the risk of nodal involvement. They also did not find any difference in nodal involvement based on tumor size (within T1) or location. The authors found approximately 8% radiologically occult mediastinal involvement on EBUS TBNA or another invasive sampling of the mediastinum and hilum. Hence, they recommend expanding the invasive staging to all peripheral T1 lung tumors regardless of their centrality, size, or location. Some potential limitations of the study include 1, lack of systematic use of PET scans in staging in this study population, which has shown increased sensitivity over CT for mediastinal nodal involvement 2, lack of standard definition of central and peripheral in the previous studies limiting fare comparison to the this study's data 3, lack of proven difference in the management and outcomes with single station radiologically occult N2 disease.

I believe there is enough growing evidence to questions the current algorithm of staging strategies and perform more studies like Dr. DuComb's to move the needle on the precise therapy for lung cancer.

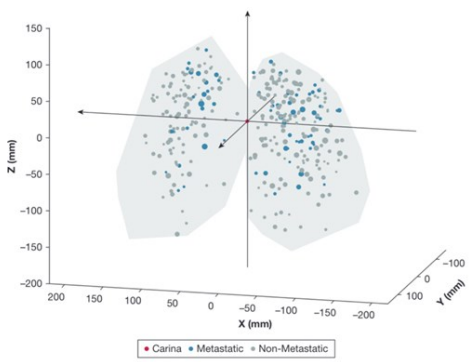


Figure 1 – Absolute lung nodule location <?show [accolade17?>by presence or absence of lymph node metastasis, within the normalized lung. The size of the dot is proportional to the diameter of the tumor.

Figure 1: Reprinted from "Chest, 2020 Nov;158(5):2192-2199., DuComb EA, Tonelli BA, Tuo Y, Cole BF, Mori V, Bates JHT, Washko GR, San José Estépar R, Kinsey CM., Evidence for Expanding Invasive Mediastinal Staging for Peripheral T1 Lung Tumors", with permission from Elsevier.

Reference: DuComb et al; CHEST 2020; 158(5):2192-2199

Ali I. Musani MD

WABIP ACADEMY- WEBCASTS

The WABIP has started a new education project recently: *THE WABIP ACADEMY.* The WABIP Academy will provide free online webcasts with new and hot topics that will interest pulmonologists and interventionalists.

Current webcast topic: **Tissue acquisition for biomarker directed therapy of NSCLC**

You can reach these webcasts by using this link: http://www.wabipacademy.com/webcast/

Links

www.bronchology.com	Home of the Journal of Bronchology
www.bronchoscopy.org	International educational website for bronchoscopy training with u-tube and facebook interfaces, numerous teachiing videos, and step by step testing and assess ment tools
www.aabronchology.org	American Association for Bronchology and I nterventional Pulmonology (AABIP)
www.eabip.org	European Association for Bronchology and Interventional Pulmonology
www.chestnet.org	Interventional Chest/Diagnostic Procedures (IC/DP) NetWork
www.thoracic.org	American Thoracic Society
www.ctsnet.org	The leading online resource of educational and scientific research information for cardiothoracic surgeons.
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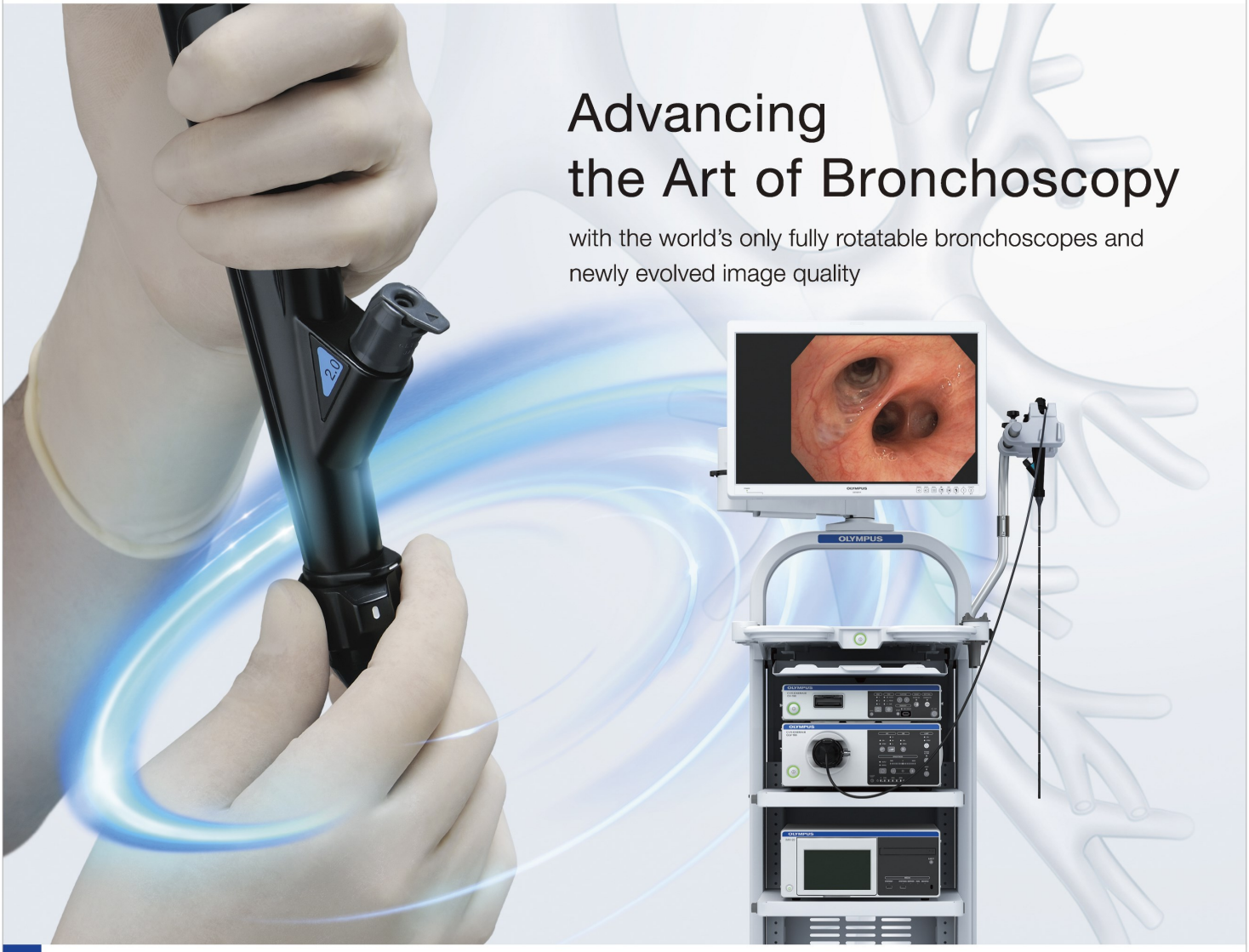

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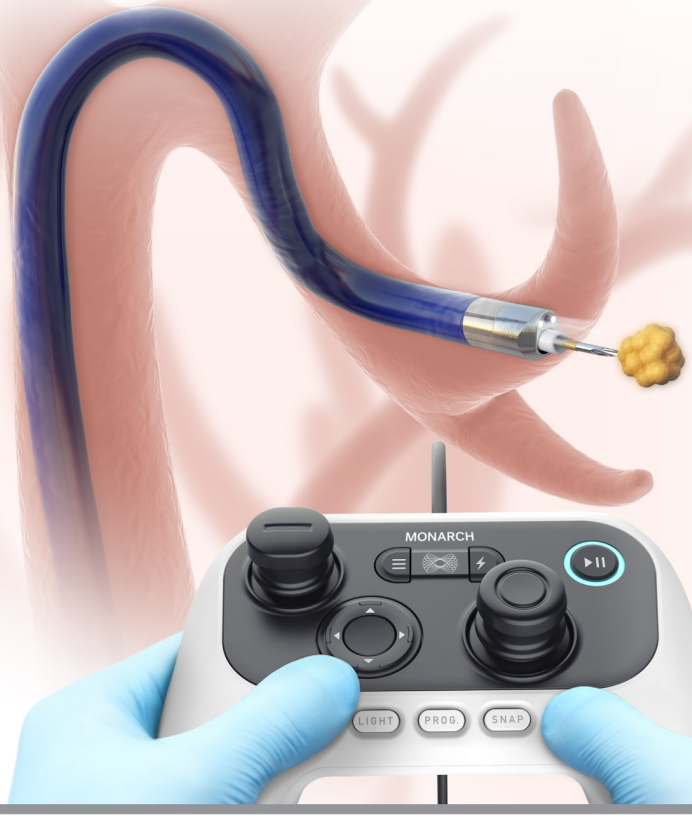
BENEFIT STUDY

THE FIRST MULTICENTER PROSPECTIVE ROBOTIC BRONCHOSCOPY TRIAL



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diagnostic yield on eccentric nodules

Robotic Bronchoscopy for Peripheral Pulmonary Lesions: A Multicenter Pilot and Feasibility Study

The diagnostic yield of 70% for eccentric lesions is encouraging as this compares favorably to the yields of 30–40% reported in the literature in this patient population.[1]

The 55-patient BENEFIT study led by Alexander C. Chen, M.D., of St. Louis, MO and Gerard A. Silvestri, M.D., of Charleston, SC assessed the safety and feasibility of utilizing a robotic system to aid in the diagnosis of peripheral pulmonary lesions.

To read the full study visit https://journal.chestnet.org/action/showPdf?pii=S0012-3692%2820%2934233-1

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DISCLAIMERS: The MONARCH® Platform is only available commercially in the US. The needle shown is for illustration purposes and is representative of commercially available needles.

1. Chen AC, Pastis NJ, Silvestri GA, et al. Robotic Bronchoscopy for Peripheral Pulmonary Lesions: A Multicenter Pilot and Feasibility Study (BENEFIT) Chest 3525, 19 August 2020,