

**The Global Health Catalyst Cancer Summit at Harvard Medical School
on March 20-21, 2015 , Boston. MA, USA**

The Theme of day 1: Use of Information and Communication Technologies (ICTs) to catalyze international collaborations in cancer care, research and education with Africa.

Could Africa contribute scientifically to increase affordability of better value cancer care in the world?

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& Member in the ESMO committee for Emerging countries.

& Member in Editorial board of The" Journal of Global Oncology", ASCO, USA.

I am the coordinator of The “**Win-Win Scientific Initiative**” presented by ICEDOC www.icedoc.net

This initiative aims at **increasing the affordability of better value cancer care in the world via exploration of scientific approaches that consider the interests of all stakeholders in the real world.**

It is a concept and an approach proposed- by ICEDOC- for all to work together, to add and to modify. It is not a body itself, so no competition! .

<http://www.icedoc.net/winwin.htm>



CANCER PLAN FOR THE AFRICAN CONTINENT 2013-2017



AFRICAN ORGANISATION
FOR RESEARCH & TRAINING
IN CANCER [AORTIC]

AORTIC International Cancer Conferences

- 2003: Accra, Ghana
- 2005: Dakar, Senegal
- 2007: Cape Town, South Africa
- 2009: Dar Es Salaam, Tanzania
- 2011: Cairo, Egypt
- 2013: Durban, South Africa

Welcome to 2015 AORTIC Conference
18-22 November, 2015, Marrakesh



- **Continental meetings and regional meetings e.g.: AORTIC Pathology Summit, 22 – 23 March 2013, Dakar, Senegal & East Africa meetings & Cancer Conference, Luanda, Angola, for the Portuguese speaking countries PALOP in September/October 2014 & AORTIC council-Leaders of the Egyptian Oncology community, Universities , Ministries of Health (Egyptian Supreme Council of Cancer) and High Education, 27 February, 2015, Luxor, Egypt.**
 - **BIG Cat Cohort II : (For beginner investigators in Africa) , Partnership between NCI, USA & AORTIC**
 - **AORTIC CANCER LEADERSHIP INSTITUTE**
 - 2014 : Memorandum of Understanding MOU, NCI, USA- AORTIC
 - New proposal: AORTIC under 40 Forum
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Dakar Declaration for Cancer Control in Africa, November, 2010

The members of the AORTIC Executive Council developed a strategic plan for advocacy, training and research on cancer in Africa.



Needless to say that:

- **It can be estimated that, at present, 60% to 70% of Cancer patients in the world have no access to any chemotherapy at all. The percentage is higher for radiotherapy. The picture is more tragic in Africa. In Africa only 5% of Cancer patients have access to Radiotherapy !. No any Radiotherapy services in 29 countries (Total 53 countries)**
- **-The pharmaceutical companies are developing increasingly expensive novels cancer drugs with no indication that the rapidly increasing expenses will be lessened in the future, The overall disease-free survival rates are not increasing in a measure commensurate with the rising curve of expenses of cancer treatment.**
- **The major markets for the pharmaceutical industry and Radiotherapy are in the USA, Western Europe and Japan.**

- **Less than 5% of cancer patients in Low and Middle Income Countries (LMCs), that include the majority of the world's population, could afford the novel anticancer drugs. This proportion is likely to decrease by the year 2020 with the rise of expenses of the novel drugs.**
- We are confronted with a more tragic situation and hard challenges in Africa that require international and regional innovative efforts and collaboration in which the **Use of Information and Communication Technologies (ICTs)** could remarkably assist.

The AORTIC Council recognised the following challenges:

- That there are approximately 700,000* new cases of cancer diagnosed in Africa per year with over 500,000 deaths recorded annually.
- That the mortality to incidence ratio of people diagnosed with cancer ranges from 75 – 90 %, which is much higher than documented in Europe where mortality ranges from 30 – 50%.
- That by 2030 there will be an estimated 1.3 million new cases of cancer in Africa with a similarly high mortality to incidence ratio as currently documented unless drastic action is taken.



The Council recognised the following challenges (Cont.):

- That there is on average only 1 radiotherapy machine per 5 million people in Africa (in some countries this figure reaches 1 per 60 million), compared to 5 per million in Europe, a 25 – fold difference.
- In at least 15 countries in Africa the population have no access to any form of anti-cancer therapies at all.
- In addition, only 5/53 countries in Africa have National Cancer Registries, so that the true incidence of cancer and its impact on the population is largely undocumented.
- That in Africa, people with cancer present with late stage disease making treatment or cure impossible and that the population rarely has access to palliative care.



In the year 2012 It was estimated that at least **7,000 additional radiotherapy machines** are presently needed worldwide and, **by 2020, at least additional 10,000 radiotherapy machines** may be needed to meet growing treatment demand.

(The Harvest is plenty!)

(Hence, the issue is not about one center or there , not about just few more machine established in some developing countries and not about spending years in question like is it cobalt or Linacs or what could be the package or component of a service!?)

- **We stress that there is no need to repeat only and concentrate all the time about the tragic data. We all Know!. But to act (e.g.Look at the name of AORTIC)! And more important is to achieve a real remarkable yearly improvement in the upcoming 5 years**
- **The gap should be filled. However, not the number that should count , but the affordability of better value cancer treatment and care for patients via innovative and classic scientific approaches that consider the real world and the different motivations and interests of stakeholders (win-win) .**

The Notion of better value healthcare:

After 40 years of uncertainties and the money spent in quality studies there is insufficient evidence about whether or how the quality of care has actually improved. Robert Brook, a pioneer quality expert, declared in 2010 :

“The end of the quality movement and long live improving value!”

Brook, R. H. (2010) The end of the quality improvement movement. JAMA 304: 1831–1832.

Welcome to the Third revolution in Healthcare:

The third revolution in health care implies the use of knowledge and informatics for getting better outcomes **centered around the customers** i.e. the patients. Hence, it implies the use of **the new term” Value” that defined as outcomes related to total costs or resources used** . In 2013, Sir Muir Gray and David Kerr stated that ”Value” will be the eminent term for the upcoming years. It will not extinct the previous terms like effectiveness, efficiency, cost effectiveness, quality and safety but it will embrace them. (**Muir Gray, David Kerr and contributors. How to get better value cancer care. Offox press , Oxford , 2013) & (A. Elzawayy. How to get better value chemotherapy . Chapter 6 in this book)**

Value depends **on results**, not inputs. Value in health care is measured by the outcomes achieved, not the volume of services delivered. **Shifting focus from volume to value is a central challenge.**

Value is not measured by the quality of the process of care used. Despite that Quality measurement and the process of its measurement and its improvement were considered of extreme importance, but in value they are considered as tactics and not as objectives themselves. Also, in Value, they are not substitutes for measuring outcomes and costs. (Porter, NEJM 2008 & Sir Muir Gray & D Kerr, How to get better value cancer care, Oxford Press, UK 2013.)

There are major points that are not adequately addressed or missed in National control programs and plans!

Defining value by its opposite – waste

There is now a **broader definition of waste**, which derives from the methods and culture of **Japanese industry**, in particular **from Toyota**. What the Japanese call muda – means ‘waste’. Hence, *any activity in a process that consumes resources without adding value for the customer is a waste*.

-Morgan, J. M. and Liker, J. K. (2006) The Toyota Product Development System. Integrating people, process, and technology. Productivity Press, New York.

-Womack, J. P. and Jones, D. T. (2003) Lean Thinking. Banish Waste and Create Wealth in Your Corporation. Simon & Schuster UK Ltd.

In healthcare, in just 6 examples of categories of waste in the USA are 1) overtreatment, 2) failures of care coordination, 3) failures in execution of care processes, 4) administrative complexity, 5) pricing failures, and 6) fraud and abuse.

The actual total waste may be far greater than 20% of total health care expenditures in the USA .

(Berwick, D. M. and Hackbarth, A. D. (2012) Eliminating waste in US Healthcare. JAMA 307: 1513–1514).

I can state that Africa is not with limited resources but, it has the curse of having rich resources that are wasted and/ or not used appropriately or more commonly no adequate mobilization of local resources. (Ahmed Elzawawy)

Economic measures like **Cost reduction without regard to the outcomes achieved is dangerous and self-defeating**, leading to false 'savings' and potentially limiting effective care . (Porter, NEJM 2008)

The win-win scientific initiative suggests to use of the reduction in waste to fund more appropriate, better value treatment. It considers the interests of all stakeholders (Elzawawy, 2008, 2009, 2010 2011,2012, 2013) <http://www.icedoc.org/winwin.htm>

ESMO Congress 26-30 September, 2014, Madrid

What can Personalized Cancer Therapy mean for Africa?

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**ESMO Emerging Countries Committee (ECC) - AORTIC-
SLACOM-UICC-WHO Joint symposium**

**Title of symposium : Personalised medicine with limited resources:
Myth or reality?**

- The win-win initiative implies that we don't copy protocols or guidelines if they don't fit the local patients and conditions, but to tailor your approaches in scientifically evidence based ways in your community and to consider how to get better value health care according to real conditions among your patients in your community (**ICTs could be of high value in exchanging experiences and consultations that could be in turn beneficial to patients in Africa and in parts to rich countries as well**) .

To give a model for resource sparing , we cited many examples based on science and on publications for resource saving breast cancer radiotherapy and systemic drug therapy in curative and palliative management of breast cancer management without compromising the outcome.

(A Elzawawy, 2008, 2009, 2010, 2011, 2012, 2013, 2014 , 2015)

e.g. Ref: Ahmed Elzawawy (2012). Science and Affordability of Cancer Drugs and Radiotherapy in the World - Win-Win Scenarios, Advances in Cancer Management, Ravinder Mohan (Ed.), ISBN: 978-953-307-870-0, InTech, Available from:

<http://www.intechopen.com/articles/show/title/science-and-affordability-of-cancer-drugs-and-radiotherapy-in-the-world>

- **General strategic planning of radiotherapy facilities in developing countries. (A Global Strategy for Radiotherapy. A WHO Consultation):** In a Consultation to the World Health Organization, a global strategy for Radiotherapy was proposed. It considered different local parameters including the Gross National Product GNP per Capita that categorized countries in the world into 4 groups (Levels). Accordingly series of **three tier radiotherapy service was proposed, with internet-based intercommunication strategy** (Porter et al., 1999). (I had the honor to be one the nine Consultants who formulated the consultation). **Such a network could be cost effective, help to bridge the gap, and give all patients access to the state-of-the-art technology in radiotherapy** (Datta & Rajasekar, 2004).

- **Practical modifications of the system of work in radiotherapy departments** in order to treat more numbers of patients, like to **increase the hour work of cobalt machines in developing countries**, the **increase the number of fractions a week** from 5 to be 6 fractions in certain applications (Overgaard et al., 2006), **the reduction of Machine downtime in many developing country institutions** that is mainly due to problems of maintenance and lack of culture of local regular preventive maintenance (Bhadrasain, 2005).

In our view, we emphasize on the importance of developing* more **programs that assure that most of the problems of down-time of machines would be fixed in the soonest as possible** by the local teams either solely or and with prompt telecommunication with the manufacturer maintenance staff.

(* Developing and implementing **widely** and NOT just talking about!

Professional training

Customized and regular updating training are recommended for the local medical and technical staff and maintainers (Bhadrasain, 2005 & Porter et al., 1999).

This is because the local staff -and not the sophistication in machines- are the back bone of resource sparing and successful cost effective treatment for more number of patients.

From many examples for resource sparing radiotherapy without compromising the results , and by rough estimation, and without additional high resources, **the number of cancer patients treated by the present existing facilities of radiotherapy could be nearly doubled particularly in the middle income countries.** This could increase the cost-effectiveness of radiotherapy in the world and hopefully would be a stimulus for increasing facilities of radiotherapy in the world. **This wouldn't hinder the purchase of new equipment, but it would be a strong stimulus it would pave the way to significant increase in numbers of new machines in the world in the upcoming years.**

As most as possible, we should avoid what I call “1-1+1= 1”

(- Elzawayy A. Breast Cancer as a Model to Improve Outcome of Cancer Care in Low- and Middle-Income Countries. World Journal of Surgery: Volume 39, Issue 3 (2015), Page 693-694)

- **Virtual University for Cancer Control (VUCCnet) of PACT, IAEA**it is very promising!

-A Global Task Force for Radiotherapy in Cancer Control **GTFRCC** has been formed recently

-The PACT/IAEA formed Advisory Group for Increasing Access to Radiation Therapy in Developing Countries (**AGaRT**),

(The “Win-Win Scientific Initiative” is a concept and an approach proposed- by ICEDOC- for all, to work together and to explore innovative scientific avenues. It is not a body itself, hence there is no competition!)

- **We think that it is important to look to Africa and Low and Middle Income Countries LMICs as contributors in the solution and NOT as a burden on the world.**
- **Actually, in Africa , there are difficulties, lack of adequate care , training , outreach and barriers for conducting more valid studies, trials and for innovative ideas to tackle the lack of holistic cancer care and radiotherapy in Africa. There are many potentialities for information and communication technologies and hopefully the example of possible collaboration with Global Health Catalyst Program at the Dana/Farber Harvard Cancer Center and AORTIC to catalyze collaborations that could be reflected not only to more affordability of better value radiation oncology and cancer care in Africa, but also in the world.**

But, these scientific researches with contribution of Africa and Africans could:

- decrease the total time spent conducting clinical trials and may reduce its costs,
- enrich the scientific quality with more ethnic and perhaps genetic variability.
- Locally, a) it could be a source of income for investigators, b) increase access to drugs and investigations, c) build capacity for researches and d) most importantly, improve the care of patients.
- **(I say it frankly: Consider investing in Africa and not just assist by pity! It should be win-win!)**

One of the exciting scientific explorations is the repurposed single or new combinations of older drugs. Researchers performed the 300,000 experiments to test 5,000 different combinations of 100 approved cancer drugs in each of 60 cell lines developed by the National Cancer Institute NCI. The new repository of data would be made available to the public on [NCI's Development Therapeutics Program's website](#) in hopes that it will provide investigators insight into potential drug combinations to target or avoid. The NCI hopes to accelerate the advancement of novel therapeutic combinations that demonstrate minimum side effects and maximum promise. If confirmed, this will form a basis for future clinical trials on such combinations.

We suggest that the Memorandum of Understanding (MOU) between NCI,USA and AORTIC (and other possible collaborators) would be used in helping Africans to contribute positively within win-win scenarios in order to get better value, patient-centered cancer care.

- **Elzawawy A, Kerr D. Variation in the availability of cancer drug generics in the United States of America. Ann Oncol 2013; 24 (suppl 5):v17-v22**
- **Elzawawy A. Shortage of Essential Cancer Drugs and Generics in The United States of America. Global Brain Storming Directions for the World. (soon)**

_ Professional and public education is essential to get better value chemotherapy

_ Incorporate knowledge of costs and cost-effectiveness analysis in clinical education.

- Train team members involved in research to understand the limitations of randomized trials of cancer therapy and that statistical significance does not imply necessarily better value and better clinical outcome
- To Conduct researches and to publish studies about better value cancer care in Africa and developing countries and not only in developed countries!

- **I contributed in the advice for establishment or development of several units in the world...Because it is non sense to speak about early detection , awareness or delay in presentation or poor prognosis without reasonable treatment become affordable to citizens –all alike- with keeping what I call” financial and social dignity”**
- **But, what about where I live?....Here are some examples...**
- **I have the honor to serve as a human bridge, a focal point for connections with colleagues and younger staff The present achievement is the result of the work of many in Port Said, Suez Canal region, Egypt**

- Elzawawy A et al. Delay in Seeking Medical Advice and Late Presentation of Female Breast Cancer Patients in Most of the World. Could We Make Changes? The Experience of 23 Years in Port Said, Egypt. Breast Care 2008;3:37–41

- Elzawawy A . How the affordability of radiotherapy and cancer drugs improves breast cancer control in Africa: an example from Port Said, Egypt. Saturday 23 November , 2013 during AORTIC 2013 Conference . Durban , South Africa

(A session chaired by Prof. Funmi Olopade)

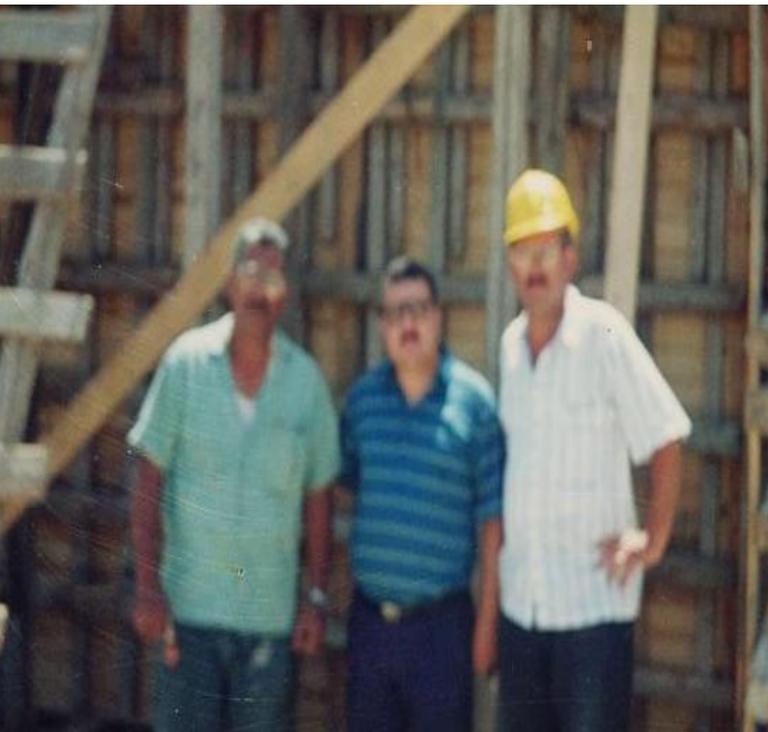
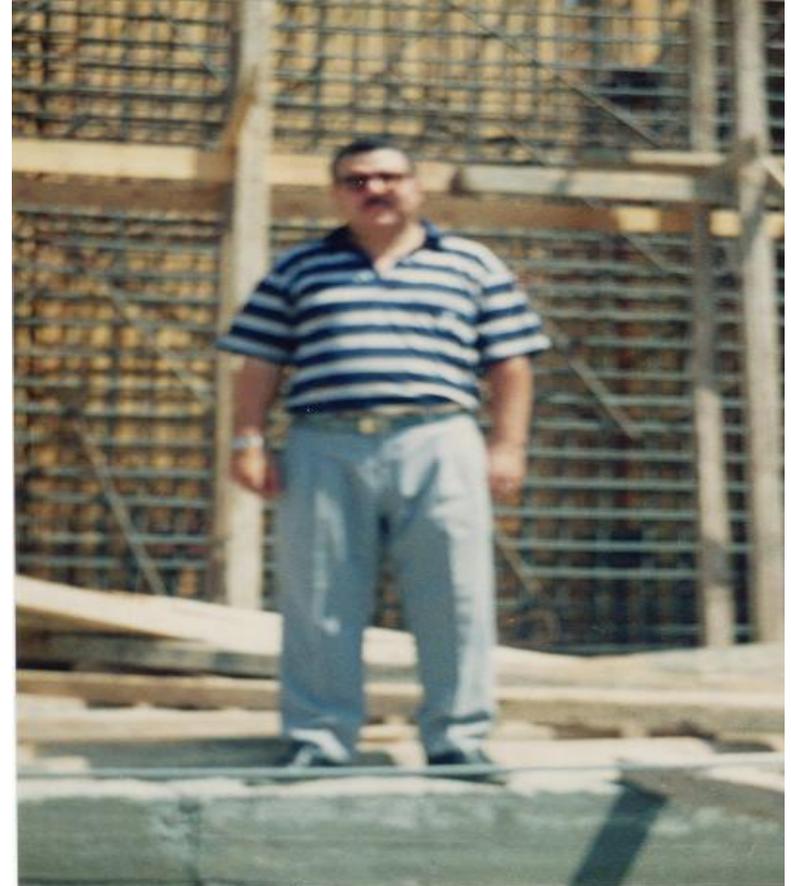


1984 : Early Detection and Chemotherapy unit, Port Said General Hospital (The Hospital was founded on 1894).

The Unit is serving **–free of charge–** since 1984 **till present** and it was the first unit for Chemotherapy.

I serve as a founder, Head and consultant , free of charge. **It was an old and abandoned part attached to the hospital. The cost was (only!) 200 \$ to transform it into a functioning unit !.** As a referral unit, It is connected to all health services in Port Said.

Prof. M. Mahfouz, Ex. Minister of Health and Minister Prof. M. Sherif, Dean of NCI Cairo, attended its inauguration on 26 Feb.,1984.



In 1993 : During the Establishment of AISoliman Hospital, Port Said and its Radiation Oncology Unit. **As all other Units, And as Professor Alain Laugier taught me I prepared the specifications, draft of the design and follow up the construction and installation (free of charge) , in between my clinical and academic works!** The main Radiation Oncology unit makes a from of Y with other parts of the hospital. I mean by Y , the name of **Mme Yvonne Laugier.**, who, with Prof. Laugier directed my way to this specialty .



Al Soliman Hospital, Port Said, Egypt , after construction (1st session Radiotherapy was performed on 22 July,1994), All Patients don't pay for Radiotherapy in Port Said! (As a charity from one Egyptian family in Port Said).

The Hospital was founded by the Late Engineer Aly Soliman and his family. Still, his family- the owner of the hospital- covers all expenses of Radiation Oncology, that serve all Port Said, and all Cancer Surgery for the non insured patients .(About 55% of patients are not insured)



November, 1995, The Radiation Therapy Linear Accelerator room, Al Soliman Charity Hospital, Port Said Egypt. The visit of **the Egyptian Prime Minister Prof. Atef Sedky** , **four Ministers and Governor of Port Said** with the Late Eng. Aly Soliman to the Left and Prof. Ahmed Elzawawy to the right.

No financial assistance was required from the government !. Just this moral blessing is good !. (During the visit, his Excellency the Prime Minister and the Minister of Health agreed kindly to join ICEDOC - WWW.ICEDOC.ORG - as volunteer consultants !)



(June 2013) The late Mr. Adel Soliman with the newer Linac that he insisted for its purchase and installation in order to enhance services to patients before his death .

It seems that this photo was his good bye to us!.



Mobilization of different local resources .All governmental, charity, insurance, private diagnostic and treatment facilities are **inter-connected**.



3 April, 2007, Dr. Joe Harford, Director-at that time- of International affairs, NCI, USA. On site visit to the Radiation Oncology Unit, Al Soliman Hospital, Port Said, Egypt.

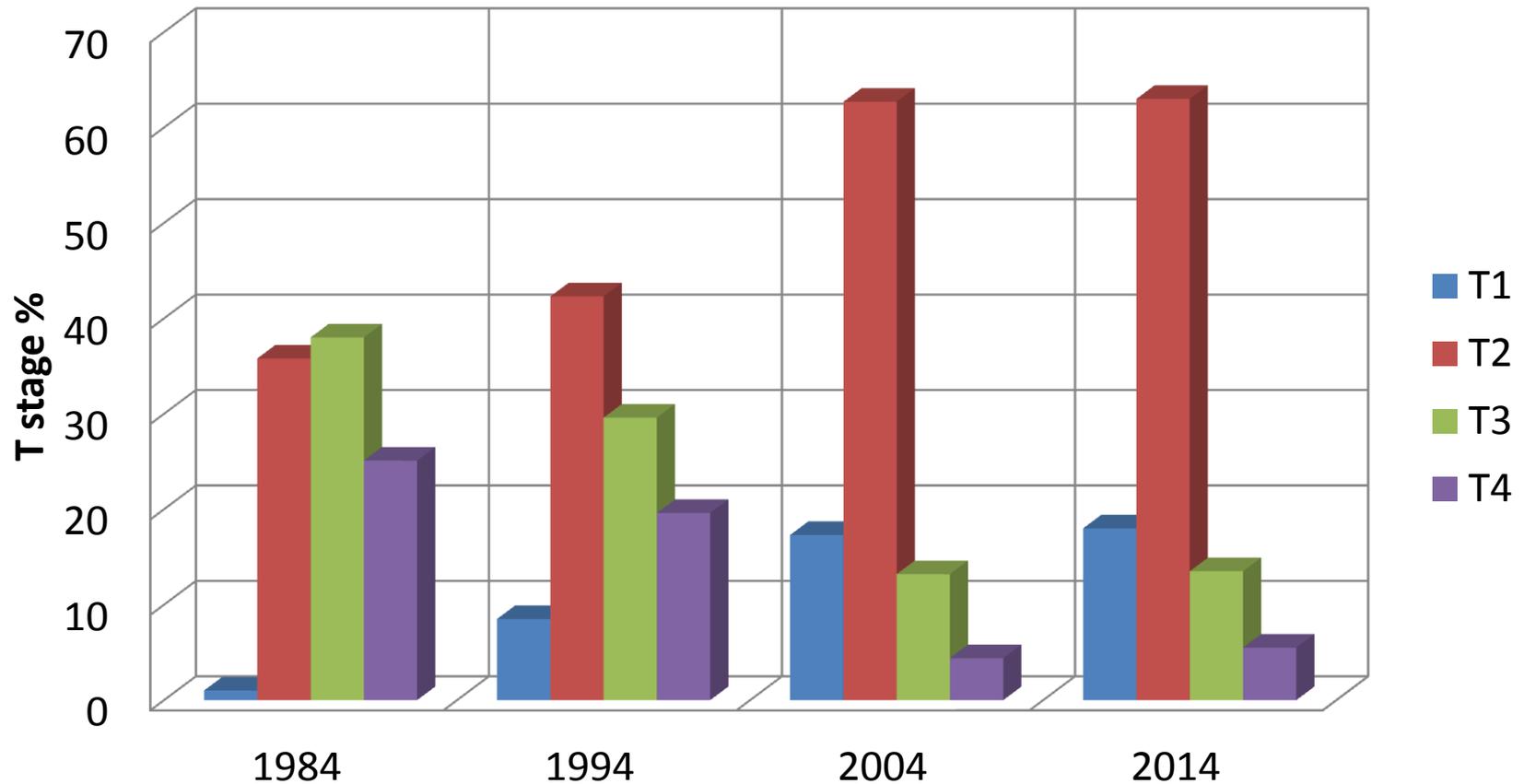


Port Said Oncology Center, recently established in Tadamon Hospital, oncology out and inpatients for insured patients (about 50% of Patients in Port Said). (Sure, all don't pay)

I serve as a senior Oncology Consultant.

Breast Cancer in Port Said, Egypt According to T

The years 1984-2014





-The Clinical Oncology and Nuclear Medicine center, that I founded and chair in Suez Canal University Hospital, Ismailia, 76 Km to South of Port Said. The Radiation Oncology in each city (Port said and Ismailia) is a back up to each other just in case of a temporary problem in the future. (This view is to show my design to this center in L shape, in order to allow future extension by the younger staff.

(With L I mean my Professor Alain Laugier who taught me in Paris- 35 y ago- to be global in views and skills !)



- The Suez Canal Authority (Company) Hospital, founded since more than one century on the border of the Suez Canal to serve workers in the company.

Without spending any cent of expenses for a new establishment, I use a part of an existing building ,in the afternoon, after the work of surgeons, as a weekly oncology clinic and chemotherapy administration (Patients pay nothing).

My grandson Youssef, is trying to play the role of a baby assistant to Papa Noel!...Remember that we are -all- working for them. They are all our kids no matter where they are in the world!



**Finally , despite of all challenges there is a hope!
... We think that if the international will,
science and the stakeholders (that includes
increasing the incentives of the manufacturers
and pharmaceuticals companies) work to
achieve feasible better value oncology care in
the real world , then, **it could be a turning
point in the history of affordability of cancer
care, based on science, all would win!.****

<http://www.icedoc.org/winwin.htm>

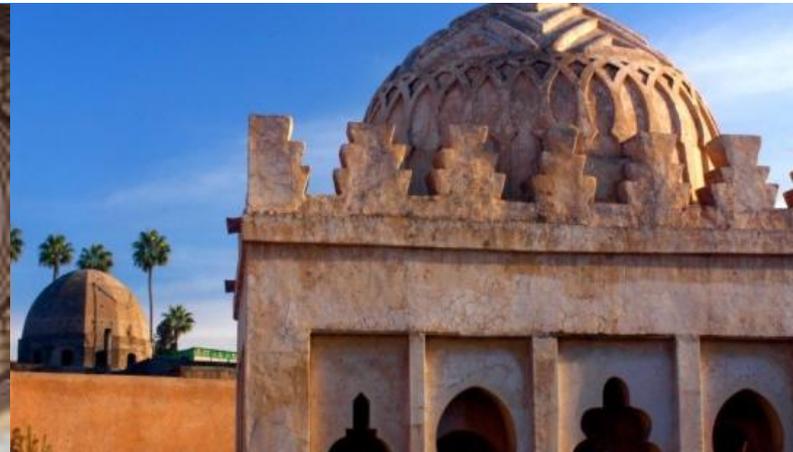
AORTIC 2015

“AORTIC Roadmap to Cancer Control in Africa”

Marrakesh, Morocco, **18 – 22 November 2015**

Mark your calendar ! Also, join AORTIC as a Member NOW!

www.aortic-africa.org & info@aortic-africa.org



- It is a message for scientific cooperation and love for all in the world!

Finally:

- **Are we are all cousins in this planet?
.....YES...Yes... Yes**
- **Then,.....Going forward, hands in hands**



THANK YOU ALL! ...Ahmed Elzawawy

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