

World Thrombosis Day, a Movement to the World without Thrombosis

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Thrombosis is a community health dilemma. Annually at least 200,000 patients are involved with venous thromboembolism (VTE) and about one-third of those dying in the first month after the event [1]. Hopefully; VTE is the most preventable cause of death in hospitalized patients [2].

A range of risk factors (whether inherited or acquired) are involved in the development of VTE [3]. Identification of acquired risk factors is of great importance due to more frequency and for their preventability. Improving the lifestyle by recognizing some risk factors like smoking, alcohol consumption and obesity can help for prevention of VTE. In addition; raising public awareness about some of the risk factors of VTE, like hospitalization and surgical procedures, has an important role in decreasing mortality rate of hospitalized patients.

The burden of thrombosis worldwide was the reason for nominating the October 13, the Virchow's birthday (a German physician, pathologist, biologist and anthropologist) as the "World Thrombosis Day" by the International Society of Thrombosis and Hemostasis in 2014. A global movement has been started by ISTH WTD campaign to increase awareness of thrombosis worldwide and to highlight the need for action against burden of VTE [4]. In this global movement, not only the developed countries but also the developing countries have come to believe in the need to join this campaign. More than 2,000 participants from more than 100 countries have entered the campaign over the six years since its inception and are doing their best to make it public. In the meantime, the Iranian Blood Transfusion Organization (IBTO), as the first partner in Iran, started different activities for social information. Hopefully for the past six years and in line with the growing activity in the world, eight other centers in Iran so far joined the campaign which six of them are from the provincial medical universities. Most centers have conducted multidisciplinary scientific seminars on different topics of thrombosis. These movements have made the thrombosis more recognizable to healthcare workers.

In my opinion, as a pathologist managing a referral coagulation lab in Iran, the field of thrombosis and thrombophilia in our country requires special attention and corrective actions in two different respects.

Thrombophilia testing

Thrombophilia testing especially in the field of patient selection and indications for testing as well as the timing of ordering needs a revising by healthcare professionals. Reference coagulation laboratory of IBTO, as one of the most specialized and referral coagulation laboratories in Iran has around 1500 referred patients annually for thrombophilia testing. About 30 - 40% of the cases are women with pregnancy complications, which 70% of them are patients who do not meet the minimum criteria for thrombophilia work up [5]; i.e. most cases just have had one or two episodes of early miscarriages (unpublished data). Besides, The list of the routinely requested tests by OB-

GYNs for investigation of the polymorphisms in thrombophilia genes in women with pregnancy adverse outcomes has growing over the past decade in our country and causing waste of resources and time [6,7].

On the other hand, there are several cases of thrombosis that have been referred in the acute phase of thrombosis or during anticoagulant treatment and so the results of such expensive panel would be unreliable.

It seems there is a need to review the national guidelines for thrombophilia testing in OB GYNs community to prevent this growing trend of expensive screening panel in this group of patients. The movements that have taken place in our country by WTD affiliated universities also seems to be helping to raise awareness about the indications of genetic thrombophilia risk factors.

VTE risk assessment and thromboprophylaxis guidelines

Since hospitalization, and especially undergoing high risk surgeries (e.g. orthopedic, major gynecological and urological surgeries as well neurosurgery) are two major risk factors for VTE, another important issue in our country is the development of VTE risk assessment guidelines to prevent hospital-associated VTEs and related morbidity. According to the report from ISTH WTD; while some countries have established mandated protocols, the majority have not [5]. Khan., *et al.* during a national survey in Ireland evaluated the utilization of VTE risk assessment model (RAM) and TP policy in Irish hospitals that manage acute admissions. From 31 acute hospitals throughout Ireland who participated in this survey only 26% (n = 8/31) had a local implemented TP policy and six (75%) of these eight had a risk assessment tool in conjunction with the TP policy. Although there are no published data about the hospitals VTE RAM establishment situation in our country; as far as we aware, most of them do not have any established VTE protocol.

IBTO strategic plan for WTD 2020 is running a study about the status of RAM, TP POLICY in Tehran hospitals and implementation of VTE protocol in at least one of these hospitals as a pilot study by collaboration between IBTO and Iranian society of thrombosis and hemostasis (IRSTH). One of the best RAMs in the world was defined by Dr. Caprini and his team in 1991 [8]. The Caprini's RAM has been evaluated and validated in over 250,000 patients, since introduction of this model. The 2013 version of it consists of more additional questions about BMI above 40 smoking, diabetes requiring insulin, chemotherapy, blood transfusions and length of surgery over 2 hours which are known risk factors but not tested in validation studies [9]. The estimated time for completing the tool is less than ten minutes [10]. This model seems to be a practical and validated choice for implementation in our country's hospitals.

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