“Take action for bone health”

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World Osteoporosis Day falls on the 20th of October every year. The theme for the International Osteoporosis Foundation (IOF) World Osteoporosis Day 2021, “Take Action for Bone Health” reminded all of us from different specialties, be it orthopedic surgeons, geriatricians, physicians, paramedics, or even the public and policy makers, that all of us have our own role to play to ensure good bone health for all.

Orthopedic surgeons play an important role in early diagnosis and treatment of osteoporosis to prevent first fracture. Bone mineral density measurement using DXA scan, combined with FRAX score, should be part of our daily clinical practice in managing our patients with high risk of osteoporosis. This is not limited to the physicians, as orthopedic surgeons should “Take Action” proactively in primary fracture prevention. Early anti-osteoporosis treatments have been reported to reduce the risk of osteoporotic fracture for patients.1 To prevent osteoporotic fractures, in recent years, many countries use clinical risk factors or BMD value generated by the FRAX algorithm to predict fracture risk.1

One of the most neglected clinical problems encountered in patients presenting with fragility fracture is vitamin D insufficiency and deficiency. The prevalence of vitamin D insufficiency was reported to be 74%2 and 39.3%3 among Japanese patients diagnosed with primary osteoporosis. Vitamin D is important for skeletal health in maintaining calcium absorption and reducing the risk of hyperparathyroidism. It is also important for muscle strength and performance and reducing the possibility of sarcopenia. The 25(OH)D levels in patients with hip fractures are reported to be significantly lower than in controls. Serum levels of 25(OH)D are a linear predictor of major osteoporotic fractures and a quadratic predictor of hip fractures.4 Reports suggest that lower serum 25(OH)D levels increase the risk of hip fractures (33% increase per 10 ng/ml decrease).5 It has been speculated that decreasing vitamin D sufficiency with age is associated with an increasing prevalence of hip fractures.5

Orthopedic surgeons play the most pivotal role in the management of fragility fractures. Individuals above fifty years of age sustaining fracture following fall from standing height, trivial injury, or fracture without any significant injury is defined as sustaining a “fragility fracture.” They will first present to us because we manage their fractures, surgically or non-surgically, to ensure proper fracture healing and allow them to return to the best functional status possible. However, many patients presenting to us with fragility fractures do not receive appropriate assessment of their bone health and fall risk. They do not receive appropriate anti-osteoporosis treatment and never had their fall risk assessed. Hence, patients present to us with repeated fractures as they fall repeatedly; with underlying fragile bones, “fracture begets fracture.”

Fragility hip fractures (FHF) carry the highest morbidity and mortality. A study aiming to identify predictors of 1-year mortality in FHF patients showed that previous vertebral fracture and Barthel Index (BI) < 30 were found to increase risk of death for male patients.7 Meanwhile, BMI < 18.5 kg/m², Total Charlson Comorbidity Index (TCCI) of 5, smoking history, length of stay (LOS) < 14 days, and BI < 30 were the risk factors for female patients.7

Fracture Liaison Service (FLS) is a coordinated multidisciplinary program, targeting the facilities available under the healthcare system, to prevent secondary fracture. To date, there are one hundred and thirty-five FLS from thirteen countries/regions in Asia Pacific mapped on the “Capture the Fracture Cif” Map of Best Practice. Capture the Fracture Partnership is a creation of a global FLS database comparative tool which will help hospitals to develop quality improvement plans, facilitate the management of the patient pathways, and achieve sustainable FLS. FLS should be introduced to all our APOA members and become part of our standard practice in managing patients with fragility fractures.

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Hip Fracture Registry (HFR) is another important initiative that should become part of our fragility fracture care. Registries provide a platform to identify and explore the impact of variation in the provision of healthcare as well as offering a mechanism to benchmark care provided by individual hospitals or other healthcare facilities against best practice clinical standards. The Hip Fracture Registry Toolbox has been developed and introduced to all orthopedic and geriatric care by the Asia Pacific Fragility Fracture Alliance. The purpose of this Toolbox is to provide the reader with an overview of key lessons learned in the establishment of hip fracture registries to date and practical tools to support registry development.

The formation of Asia Pacific Osteoporosis and Fragility Fracture Society (APOFFS) is another action taken by our APOA family in order to raise awareness and interests of our family members on fragility fractures and the underlying osteoporosis. APOFFS allows us to work and collaborate with other regional and global organizations on osteoporosis, geriatric medicines, rehabilitations, and fragility fracture in particular. APOFFS allows us to bring APOA members out from APOA and also open our door to non-orthopedic organizations outside APOA to come into our family.

All members of APOA should be aware and be alerted about the importance of fragility fracture, the underlying osteoporosis, and high fall risk which is particularly important in older frail persons. Managing fragility fracture alone is far from adequate. Orthopedic surgeons should be well equipped with confidence and knowledge as well as be prepared to manage the pharmacological treatment for the underlying osteoporosis and play a more proactive role in reducing patient’s fall risk. Orthopedic surgeons should also be prepared to work with a multidisciplinary team consisting of physicians, geriatricians, emergency medicine physicians, a rehabilitation team, dietitians, and pharmacists in order to provide the best care possible to our patients with fragility fractures. In fact, orthopedic surgeons should take a more proactive role to lead and champion all the above initiatives to the best we can.

Orthogeriatric care has been identified as one of the most important intervention in fragility fracture care. Physical frailty, management of cognitive function, post-surgery delirium, fall-risk assessment, and sarcopenia are all real clinical problems associated with fragility fractures seen in our patients. However, with the very limited number of geriatricians in most of our Asia Pacific countries, we need to work closely with our general physician colleagues and the Fracture Liaison Service team to provide “orthogeriatric care without geriatrician.” It is time for all of us in APOA to “Take Action” now, to change our mindset and attitude, as well as to improve our practice in fragility fracture care, in order to provide the best care possible to our patients.

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