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PROS and CONS in general medicine and geriatrics, 2020

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Abstract

In 2020 many researches were published concening non Covid pathologies. In the field of general medicine and geriatrics a look is given to oxygen therapeutic use, soft surgical treatments of benign prostatic hyperplasia, nonalcoholic steatohepatitis treatment, use of SGLT2 inhibitors in cardiac failure and a proposal for treatment of severe claudicatio intermittens. (www.actabiomedica.it)

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2020, the year of the Covid-19 pandemic, when weakness and gaps in healthcare systems which have been known for a long time became dramatic.

How hospitals and community services should evolve and what technology has proved useful in this time of the Covid-19 pandemic?

Many patient communities and healthcare professionals are hoping for the digital transformation. This includes mutual consultations, improved digital communication tools, easy access to electronic health records, and home delivery of exams and medications, for example.

But we cannot forget non Covid diseases. In 2020 it was necessary to cancel or postpone non-urgent services, which led to a huge backlog in treatment delays, discontinuity, and late presentation for early diagnosis, among others. These challenges profoundly affected general medicine and geriatric care and put the whole societal system under stress.

There is clearly a need to look outside the hospital setting to primary care, community care, self-management, and a transition between different treatment services, particularly in the light of 'long-Covid' effect, which is another wicked problem that we are going to have to address.in geriatric settings too. It has increased awareness of the need and importance of person centred care and relevance of health promotion and prevention, as well as building resilience for all age people and organizations, with equitable access to healthcare (1).

Let's start with an alert: during MRI, Wear Face Masks with No Metal. Health care providers should ensure that patients' face masks do not contain metal when they are undergoing MRI. Face masks that contain metal could get hot and burn the patient. This includes, for example, nose wires, staples on the head piece, nanoparticles, or antimicrobial coatings that may contain silver or copper. If the absence of metal cannot be confirmed and it is determined to be appropriate for the patient to wear a face mask, an alternative face mask where the absence of metal can be confirmed should be used (2).

Prostatic artery embolization (PAE), an outpatient procedure performed by interventional radiologists, is an option for managing urinary retention and severe hematuria caused by benign prostatic hyperplasia (BPH). Oldest comorbid patients at high risk for complications from more invasive treatments and

patients with extremely large prostate volume are especially suitable for PAE. In a case series from Yale University, 75 patients (mean age, 78) underwent PAE for urinary retention, ongoing or severe gross hematuria, or both conditions. All patients were considered to be poor surgical candidates because of large gland size or medical comorbidities. Most patients had 6 to 12 months of follow-up. Among the 46 patients with urinary retention, about three quarters became catheter-free during follow-up. Among the 55 patients with gross hematuria (of whom 16 had required transfusions), hematuria resolved in nearly all cases. Procedure-related complications were infrequent. PAE appears to have a role in treating selected patients with complications from BPH, and will likely become available in many hospitals in nearest future (3).

Prostatic Urethral Lift (PUL)for Benign Prostatic Hyperplasia. This minimally invasive procedure generally was effective during several years of follow-up. The surgical reintervention rate after prostatic urethral lift is not well characterized but has been estimated at 2% to 3% per year. A systematic review and meta-analysis were performed to determine the surgical reintervention rate after PUL that is 6.0% per year and is higher in studies with longer followup durations. This procedure is an effective ans safe surgical treatment in old men (4).

Topical oxygen has been used for the treatment of chronic wounds for more than 50 years. Its effectiveness remains disputed due to the limited number of robust high-quality investigations. Hyperbaric oxygen therapy (i.e., breathing 100% oxygen under high atmospheric pressure) has shown mixed results in studies of diabetic foot ulcers. In a multicenter trial, investigators examined whether topical oxygen promotes healing of such ulcers. The aim of the study was to assess the efficacy of multimodality cyclical pressure Topical Wound Oxygen (TWO2) home care therapy in healing refractory diabetic foot ulcers (DFUs) that had failed to heal with standard of care (SOC) alone. Seventy-three patients with diabetic foot ulcers were randomized to receive pressurized oxygen topically (administered through a chamber placed over the extremity) or sham treatment (same device, delivering nonpressurized room air). Enrollment criteria included ulcer size of 1 to 20 cm2, at least 1 month of unsuccessful treatment, and absence of severe limb ischemia. Patients treated themselves at home, 5 times weekly, for 90 minutes per session. At 12 weeks, complete ulcer healing occurred in 42% of intervention patients and in 14% of sham-control patients (P=0.01). At 1 year, rates of complete healing remained greater in the intervention group (56% vs. 27%; P=0.01). The results of this trial (which was funded by the maker of the device) are quite impressive, but a non–industry-supported study to corroborate the findings is necessary (5).

Semaglutide Linked to NASH Resolution? This glucagon-like peptide-1 (GLP-1) receptor agonist, is associated with higher odds of nonalcoholic steatohepatitis (NASH) resolution in patients with stage F2 or F3 fibrosis. Over 300 adults with biopsy-confirmed NASH were randomized to receive one of three doses of daily subcutaneous semaglutide or placebo for 72 weeks. For the primary outcome, researchers studied NASH resolution without worsening fibrosis; for the secondary outcome, an improvement of at least one fibrosis stage without exacerbating NASH.

Among those with stage F2 or F3 fibrosis, the primary outcome occurred more frequently in those who received semaglutide (59% in the highest-dose group vs. 17% in the placebo group). Semaglutide was not associated with an improvement of at least one fibrosis stage. Neoplasms were identified at a higher rate in semaglutide recipients without an organ-specific pattern. The authors speculate that the drug's mechanism of action may relate to indirect beneficial effects on weight and insulin resistance, as well as reductions in metabolic dysfunction, lipotoxic effects, and inflammation. The increasing prevalence of NASH in general medicine and the lack of available treatments have been problematic. The possibility of an effective treatment is worth noting (6).

Guidelines Issued on Home Oxygen Therapy in Chronic Lung Disease. The American Thoracic Society (ATS) has published guidelines on home oxygen therapy for patients with chronic lung disease. The group strongly recommends long-term oxygen therapy for at least 15 hours a day for patients with chronic

obstructive pulmonary disease (COPD) or interstitial lung disease with severe chronic resting room air hypoxemia.The ATS also made the following recommendations: a- for adults with COPD and moderate chronic resting room air hypoxemia (O2 saturation of 89–93%), the group suggests not prescribing long-term oxygen therapy; b- for those with COPD or interstitial lung disease who have severe exertional room air hypoxemia, the group suggests prescribing ambulatory oxygen therapy (i.e., oxygen given during exercise or activities of daily living); c-for patients with either condition who are mobile outside the home and need continuous oxygen at a rate above 3 L/min during exertion, the group suggests prescribing portable liquid oxygen. The panel also issued a best practice statement recommending that patients and their caregivers receive education on oxygen equipment and safety, including tripping hazards, smoking cessation, and fire prevention. They noted that the available evidence on home oxygen therapy is lacking and that more research is necessary, since supplemental oxygen is commonly prescribed (7).

SGLT2 Inhibitors for Heart Failure with Reduced Ejection Fraction. More promising results for this drug class in individuals with HFrEF with or without diabetes, come from the results of many recent trials. In a large observational study conducted in a real world clinical practice context, the short term use of SGLT2 inhibitors was associated with a decreased risk of cardiovascular events compared with the use of DPP-4 inhibitors. The SGLT-2 inhibitor sotagliflozin reduced deaths from cardiovascular causes, hospitalizations, and urgent care visits, compared with placebo, without major safety issues. The effects of empagliflozin and dapagliflozin on hospitalisations for heart failure were consistent in two independent trials and suggest that these agents also improve renal outcomes and reduce all-cause and cardiovascular death in patients with HFrEF.The EMPEROR-Reduced trial showed that empagliflozin is superior to placebo in improving HF outcomes among patients with symptomatic stable HFrEF (EF ≤40%), irrespective of diabetes status. Even though the sodium-glucose cotransporter 2 inhibitors were introduced as type 2 diabetes management drugs, the results of many trials indicated a clear benefit in HF management. These drugs will likely have a prominent role in future HF management guidelines (8,9).

Vigorous Hydration to Manage Intermittent Claudication? Medical treatment of severe intermittent claudication or critical limb-threatening ischemia causing rest pain frequently achieves only partial relief or is not effective at all.

Patients with severe intermittent claudication or rest pain of the lower extremities who did not improve after control of risk factors, supervised exercises, and cilostazol medication were included in this study. All patients were treated with hydration. They were asked to drink 2500 mL of fluids (water, soup, milk) during a 24-hour period and to ingest 0.6 g/kg of albumin a day, as egg white or albumin powder. Total salt administered daily was 3.5 g. Symptoms, skin temperature, ankle-brachial index, albumin concentration in serum, and time and distance to claudication were recorded before treatment, at 6 weeks, and at 6 months. Electrolytes were measured monthly. No additional treatment was used during the study. Walking was encouraged but not supervised.

There were 132 patients (94 male, 38 female) included in the study. Median age was 72.5 years (range, 67-77 years); all had severe claudication of a mean of 100 meters or rest pain. Symptoms had been present for >5 months in all patients; 22 (16.8%) had rest pain. All 131 compliant patients improved their status related to lower extremity ischemia; the noncompliant patient did not have any variation of symptoms, skin temperature, ankle-brachial index, or time and distance to claudication. All patients survived the initial 6 months of treatment; afterward, three patients abandoned the treatment and four died of unrelated causes. After the 6-month control 49% of the patients continued to improve the time and distance to claudication as well as the ankle-brachial index. The rest of the patients conserved the initial improvement. Five patients who had significantly improved the time and distance to claudication were asked to decrease water intake for 3 days. No changes in time and distance to claudication were detected. Hydration was reinitiated. This study suggests that proper hydration by drinking ≥2000 mL of water daily and albumin complement

orally to reach 4 g/dL in serum could be included in the armamentarium of physicians treating patients with disabling claudication or rest pain caused by peripheral artery disease. Further comparative studies to assess the benefit of hydration and increasing the serum oncotic pressure are warranted (10).

Good news concerning easy and friendly diagnostic technology: an important factory recently launched a Mobile Digital X-ray, giving facilities access to a portable X-ray system that is equipped with enhancements that can streamline bedside exams to help improve workflow and productivity. This will help many facilities (e.g. nursing homes) that require rapid imaging exams performed in a variety of complex situations, often at the patient's bedside. The FDA cleared this device has a compact design with advanced features that promote efficiency and patient safety, without compromising image quality. Its use could provide better and timely diagnosis in oldest patients with partial or total disability, living at home or in residencies (11).

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