PHILIPPINE SOCIETY OF MEDICAL ONCOLOGY (PSMO) CONSENSUS RECOMMENDATIONS IN THE MANAGEMENT OF PROSTATE CANCER DURING COVID-19 PANDEMIC IN THE CORONAVIRUS DISEASE 2019 (COVID-19) ERA

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I. Background and Context

Currently, there is a global pandemic surrounding the spread of COVID-19. The rapid spread to all corners of the globe has had tremendous health and economic implications, including the appropriate allocation of healthcare resources. Considering that hospitals may be overwhelmed quickly given the need for a proportion of patients that require hospitalization, reassessing priorities for screening and implications of treatments can help decrease healthcare burden. The situation is evolving, and pragmatic actions may be required to deal with the challenges of treating patients, while ensuring their rights, safety, and wellbeing.

The Philippines is one of the countries affected since the first quarter of 2020 and is consistently one of the hardest hits.

Prostate cancer is one of the top 5 cancer in the Philippines. While majority of prostate cancer patients have a more favorable prognosis and more indolent course compared to other cancer types, challenges in risk stratification and management of this malignancy remain amidst the current pandemic.

II. Rationale

As the Covid-19 pandemic continually poses a challenge to clinicians in terms of redistribution of staff and resources, there is the need to develop guiding principles to help set priorities for the continued care of prostate cancer patients while mitigating the untoward effects of Covid-19 on them.

III. Goal and objectives:

- To provide local guidance on the management of Prostate Cancer in the COVID-19 era.
- To identify and prioritize at-risk patient groups and provide a tiered approach in screening and treatment decision recommendation during the COVID-19 pandemic according to the levels of priority and criteria.

IV. Target Users:

The guidelines aim to provide recommendations for the medical oncologist practicing in the Philippines on the management of prostate cancer during the COVID-19 pandemic.

V. Methods

Different clinical questions were gathered and studied. Review of literature was done to answer the different clinical questions and were graded based on the strength of recommendation gathered.

VI. Related Guidelines

This locally developed guideline is based on the recommendations from the following guidelines: European Society of Medical Oncology (ESMO) as published in the ESMO management and treatment adapted recommendations in the COVID-19 era; National Cancer Center Network NCCN) published in Care of Prostate Cancer Patients During the COVID-19 Pandemic: Recommendations of the NCCN; and the European Association of Urology published in EAU Guidelines Office Rapid Reaction Group: An organization-wide collaborative effort to adapt the EAU guidelines recommendations to the COVID-19 era.

VII. Grading of Evidence and Strength of Recommendation

This guideline is adapting the tiered approach of ESMO in delivering a guidance for cancer patients during the COVID-19 pandemic. The approach is designed across three levels of priorities, namely: tier 1 (high priority intervention), 2 (medium priority) and 3 (low priority) – defined according to the criteria of the Cancer Care Ontario, Huntsman Cancer Institute and ESMO-Magnitude of Clinical Benefit Scale (ESMO-MCBS), incorporating the information on the value-based prioritization and clinical cogency of the interventions

- **High priority**: Patient's condition is immediately life threatening, clinically unstable, and/or the magnitude of benefit qualifies the intervention as high priority (e.g. significant overall survival [OS] gain and/or substantial improvement in quality of life [QoL]).
- **Medium priority**: Patient's situation is non-critical but delay beyond 6 weeks could potentially impact overall outcome and/or the magnitude of benefit qualifies for intermediate priority.
- **Low priority**: Patient's condition is stable enough that services can be delayed for the duration of the COVID-19 pandemic and/or the intervention is non-priority based on the magnitude of benefit (e.g. no survival gain with no change nor reduced QoL).

VIII. General Recommendations

A. Prioritization

Q: In general, how should prostate cancer be prioritized during COVID-19 pandemic?

A: The tiered approach of ESMO in delivering a guidance for cancer patients during the COVID-19 pandemic is designed across three levels of priorities, namely: tier 1 (high priority intervention), 2 (medium priority) and 3 (low priority) – defined according to the criteria of the Cancer Care Ontario, Huntsman Cancer

Institute and ESMO-Magnitude of Clinical Benefit Scale (ESMO-MCBS), incorporating the information on the value-based prioritization and clinical cogency of the interventions

- **High priority**: Patient's condition is immediately life threatening, clinically unstable, and/or the magnitude of benefit qualifies the intervention as high priority (e.g. significant overall survival [OS] gain and/or substantial improvement in quality of life [QoL]).
- **Medium priority**: Patient's situation is non-critical but delay beyond 6 weeks could potentially impact overall outcome and/or the magnitude of benefit qualifies for intermediate priority.
- **Low priority**: Patient's condition is stable enough that services can be delayed for the duration of the COVID-19 pandemic and/or the intervention is non-priority based on the magnitude of benefit (e.g. no survival gain with no change nor reduced QoL).

B. Outpatient Visits

Q: In general, how should prostate cancer outpatient visit be prioritized during the COVID-19 pandemic?

A: The tiered approach of ESMO for cancer patients during the COVID-19 pandemic is prioritized as follows.

High Priority	Medium Priority	Low Priority
• First visits of symptomatic patients or patients with high burden/high volume metastatic disease who are likely to have rapid progression resulting in symptoms and/or complications (spinal cord compression, bleeding, acute	• Initiation of systemic treatment in asymptomatic patients with low volume metastatic disease • Asymptomatic patients with suspicious or proven local/systemic relapse on imaging	Patients under ADT and other AR-targeted agents with a long stable course of disease (refer to telemedicine/telephone visit) or patients under active surveillance

urine retention, hydronephrosis)		
• New patients with metastatic aggressive variant and small cell prostate cancer		
• Patients with severe side effects of ongoing systemic treatment or symptoms that cannot be managed via telephone consulting		

C. Imaging Studies

Q: In general, how should imaging studies of prostate cancer be prioritized?
A: A: The tiered approach of ESMO for cancer patients during the COVID-19 pandemic is prioritized as follows.

High Priority	Medium Priority	Low Priority
Any acute symptoms (neurological, bleeding, fracture, thrombosis, pulmonary emboli), that need urgent imaging (MRI, CT, ultrasound)	Any imaging that serves to make necessary treatment changes or decisions and has an impact on disease management and outcome	Imaging for monitoring in clinically stable patients

Another approach can be used from the EAU guidelines.

Diagnostic Evaluation				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if	Clinical harm (progression, metastasis) possible if	Clinical harm (progression, metastasis) and (cancer-	Life threatening situation or opiod-

	postponed by 6 months	postponed 3-4 months but unlikely	related) deaths very likely if postponed >6 weeks	dependent pain
Level of Evidence	1	3	3	3
COVID-recommendation	Defer by 6 months	Diagnose before end of 3 months	Diagnose within <6 weeks	Diagnose within <24 hours
Benign feeling gland, PSA >10 ng/ml	Upfront pre biopsy mpMRI if resources allow then biopsy. If not, defer biopsy until after COVID			
Abnormal DRE or PSA >= 10 ng/ml	Upfront pre biopsy mpMRI if resources allow	Biopsy without MRI	Biopsy without MRI if locally advanced or highly symptomatic	
Symptoms of Metastasis			• Stage using CT and or bone scan • Commence ADT if radiological evidence of metastatic prostate cancer • Biopsy can be postponed	
Impending spinal cord compression				Immediate treatment if diagnosis is clear on basis of PSA and imaging

^ The decision whether to proceed with further diagnostic or staging work-up is guided by which treatment options are available to the patient, taking the patient's life expectancy into consideration. Diagnostic procedures that will not affect the treatment decision must be avoided. During the ongoing pandemic, the need for further work-up must be balanced against the increased risk for a patient to visit the hospital.* Depending of the local situation, discuss decompressive surgery (if needed) or upfront EBRT on top of systemic treatment.

D. **Radiation Oncology**

Q: How is radiation therapy for prostate cancer patients prioritized during COVID-19 pandemic?

A: A tier approach in classifying patients into different priorities based on their symptomatology and maximizing other forms of therapy beside radiation treatment.

High Priority	**Medium Priority**	**Low Priority**
Hypo fractionated or extreme hypo fractionated RT for symptomatic lesions (e.g. bone metastasis)		Generally, extend neoadjuvant ADT as required until RT can be given • Intermediate risk or high risk • Hypo fractionated RT • Pelvic lymphatic drainage RT: only if nodal involvement • Salvage setting

IX. Specific Recommendations

A. Early detection and screening

Q: Can diagnosing of prostate cancer be delayed during the COVID-19 pandemic?

A: Minimal harm is expected with delays in care or treatment of 3–6months, especially when weighed against the risk of mortality of COVID-19. The NCCN and EAU consensus endorses the following:

- The NCCN panel endorses the following principles.
  - Patient safety

        - Minimizing patient exposure to SARS-COV2
    - Occupational safety
        - Minimizing exposure of health care providers to SARS-COV-2
    - Resource utilization stewardship
        - Ensuring thoughtful, community focused preservation of scarce medical resources
    - Maintenance of social distancing
        - Minimizing contact between individuals, and between individuals and the health care system.

The NCCN panel note that the risks of a delay in diagnosis of up to 6 to 12 months are minimal for prostate cancer and they endorse principle of shared decision-making and recognize the unique needs of every patient. The health care providers should follow guidance from federal, state, and local governments, as well as leadership of individual health systems, to determine the appropriate time to resume normal health care operations.

Avoid	**Defer**
Routine prostate screening – including prostate specific antigen (PSA) testing and digital rectal examination (DRE) – for all asymptomatic individuals until the pandemic subsides.	• Patients with elevated PSA/ and or abnormal DRE should defer further testing – laboratory, imaging, and prostate biopsy – until health care facilities are considered safe and harbor a low risk for COVID-19 infection as assessed by regional and national guidelines. • In **rare and exceptional** circumstances under which prostate biopsy is deemed necessary for diagnosis of a potentially lethal prostate cancer – based on symptoms, PSA levels, physical examination, and imaging – a more immediate rather than a deferred biopsy *may* be considered o Strategies to minimize the risk of infectious complications should be employed, including but not limited to a thorough history to

	identify high-risk individuals, application of local antibiograms, antibiotic augmentation, rectal culture and transperineal approach to a biopsy

As recommended by the European Association of Urologists

Screening and Early Detection				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed by 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer-related) deaths very likely if postponed >6 weeks	Life threatening situation or opiod-dependent pain
Level of Evidence	2			
COVID-recommendation	Defer by 6 months	Diagnose before end of 3 months	Diagnose within <6 weeks	Diagnose within <24 hours
	To be postponed until the end of the pandemic (at least as long as the confinement is ongoing)			

B. Treatment of different Clinical Stages

1. Localized low risk to intermediate risk prostate cancer

Q: In patients presenting with localized low risk to intermediate risk prostate cancer, when can treatment be initialized and what options can be considered?

A: In the NCCN consensus, patient with very low, low and favorable intermediate risk disease should not undergo further staging, active surveillance, confirmatory testing/monitoring, and treatment until deemed safe.

I. Treatment of localized prostate cancer: low risk				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed by 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer-related) deaths very likely if postponed >6 weeks	Life threatening situation or opiod-dependent pain
Level of Evidence	3			
COVID-recommendation	Defer by 6 months	Treat before end of 3 months	Treat within <6 weeks	Treat within <24 hours
Active surveillance	• Postpone confirmatory rebiopsy as well as DRE • PSA can be postponed for upto 6 months			
Active Treatment	Postpone it and patients should be encouraged to have treatment			

	deferred for 6-12 months.			
II. Treatment of localized prostate cancer: intermediate risk				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed by 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer-related) deaths very likely if postponed >6 weeks	Life threatening situation or opiod-dependent pain
Level of Evidence	3			
COVID-recommendation	Defer by 6 months	Treat before end of 3 months	Treat within <6 weeks	Treat within <24 hours
Active surveillance (G3+4)		DRE and repeated biopsy when medical resources allow		
RP		• It can be postpone until after pandemic • Do not use neoadjuvant ADT		
EBRT		• Use moderate hypofractionation (20x3 Gy) starting with neoadjuvant ADT that might be		

		prolonged for up to 6 months • Avoid invasive procedure such as fiducial procedure such as fiducial insertion and/or rectal spacers		
Brachytherapy	To postpone or to consider an alternative modality (invasive procedures carry a higher risk of COVID-19 transfer)			
Abbreviations. ADT = androgen deprivation therapy; DT = computed tomography; DRE = digital rectal examination; DT = doubling time; EBRT = external beam radiation; ProstateCancertherapy; G-CSF = granulocyte-colony stimulating factor; mpMRI = multiparametric magnetic resonance imaging; PCa = prostate cancer; PET = positron emission tomography; Pred = prednisone; PSA = prostate-specific antigen; RP = radical prostatectomy				

2. Localized High-Risk Prostate Cancer

Q: In patients presenting with localized high-risk prostate cancer, when can treatment be initialized and what options can be considered?

A: Consideration of non-myelosuppresive regimens when alternatives exist to minimize risk of immunosuppression and infectious complication.

Consideration to use 3-, 4-, or 6-month formulations of ADT should be preferred over 1-month injections. If it is deemed safe for patients to receive RT, the shortest safe external

beam RT (EBRT) regimen should be used. This can consist of 5 to 7 fractions, consistent with current NCCN Guidelines.

III. Treatment of localized prostate cancer: High Risk				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed by 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer-related) deaths very likely if postponed >6 weeks	Life threatening situation or opiod-dependent pain
Level of Evidence		3		
COVID-recommendation	Defer by 6 months	Treat before end of 3 months	Treat within <6 weeks	Treat within <24 hours
RP		Postpone until after pandemic. If patient anxious consider ADT + EBRT		
EBRT		• Use immediate neoadjuvant ADT upto 6 months followed by EBRT and long term ADT • Do not use fiducials or spacers		
Abbreviations. ADT = androgen deprivation therapy; DT = computed tomography; DRE = digital rectal examination; DT = doubling time; EBRT = external beam radiation;				

ProstateCancertherapy; G-CSF = granulocyte-colony stimulating factor; mpMRI = multiparametric magnetic resonance imaging; PCa = prostate cancer; PET = positron emission tomography; Pred = prednisone; PSA = prostate-specific antigen; RP = radical prostatectomy

3. Locally advanced prostate cancer

Q: In patients presenting with locally advanced prostate cancer (including cN1), when can treatment be initialized and what options can be considered?
A: Consideration of non-myelosuppressive regimens when alternatives exist to minimize risk of immunosuppression and infectious complication.
Consideration to use 3-, 4-, or 6-month formulations of ADT should be preferred over 1-month injections. If it is deemed safe for patients to receive RT, the shortest safe external beam RT (EBRT) regimen should be used. This can consist of 5 to 7 fractions, consistent with current NCCN Guidelines.

IV. Treatment of locally advanced prostate cancer (including cN1)				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed by 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer-related) deaths very likely if postponed >6 weeks	Life threatening situation or opiod-dependent pain
Level of Evidence			2	
COVID-recommendation	Defer by 6 months	Treat before end of 3 months	Treat within <6 weeks	Treat within <24 hours
RP			• Do not use neoadjuvant ADT to postpone RP • Consider long term ADT +	

			EBRT as an alternative to surgery	
EBRT			• Start immediate neoadjuvant ADT, if symptomatic, followed by EBRT 6-12 months later • Avoid invasive procedures such as fiducial insertion and or rectal spacers	
Abbreviations. ADT = androgen deprivation therapy; DT = computed tomography; DRE = digital rectal examination; DT = doubling time; EBRT = external beam radiation; ProstateCancertherapy; G-CSF = granulocyte-colony stimulating factor; mpMRI = multiparametric magnetic resonance imaging; PCa = prostate cancer; PET = positron emission tomography; Pred = prednisone; PSA = prostate-specific antigen; RP = radical prostatectomy				

Q: When can follow up be scheduled after a treatment with curative intent?
A: Consider deferring repeat imaging over time if PSA is declining and absence of symptoms until risk of COVID-19has resolved.

V. Follow-up after treatment with curative intent				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if	Clinical harm (progression, metastasis) possible if	Clinical harm (progression, metastasis) and (cancer-	Life threatening situation or opiod-

	postponed by 6 months	postponed 3-4 months but unlikely	related) deaths very likely if postponed >6 weeks	dependent pain
Level of Evidence	3	3		
COVID-recommendation	Defer by 6 months	Treat before end of 3 months	Treat within <6 weeks	Treat within <24 hours
Persistently elevated PSA	Postpone PET Imaging until the pandemic is solved	If a treatment is deemed necessary, start ADT and postpone further work-up and potential EBRT later		
PSA relapse after local treatment	Defer images until after the pandemic for those with a PSA relapse	• After RP: offer salvage EBRT for patient with EAU High-risk BCR if it is available. If not consider ADT with EBRT after the pandemic • After EBRT: if salvage is needed, offer ADT initially if the PSA DT is <12 months		

During the pandemic, offer telemedicine as often as possible. This should be considered as standard provided the patient has no unexplained complication from treatment. Only patients in absolute need for clinical exam should have it. Indeed, it may well be possible to postpone for some months physical assessment and use telemedicine interview.
Abbreviations. ADT = androgen deprivation therapy; DT = computed tomography; DRE = digital rectal examination; DT = doubling time; EBRT = external beam radiation; Prostate Cancer therapy; G-CSF = granulocyte-colony stimulating factor; mpMRI = multiparametric magnetic resonance imaging; PCa = prostate cancer; PET = positron emission tomography; Pred = prednisone; PSA = prostate-specific antigen; RP = radical prostatectomy

In Summary of the treatment and management of Non-metastatic Prostate Cancer

High Priority	Medium Priority	Low Priority
• Initiation of ADT in progressive, symptomatic locally advanced or mHSPC • First-line treatment for symptomatic metastatic CRPC in addition to ADT where postponing treatment initiation is most likely to have an impact on overall survival and outcome • Chemotherapy (docetaxel or cabazitaxel) in rapid progressing/symptomatic patients not sensitive to AR-targeted agents, likely to respond and to have symptoms controlled. Prophylactic G-CSF support is	• Adding an AR-targeted agent to ADT in mHSPC (can be postponed to latest possible timepoint as defined in pivotal trials) • Slowly progressing first-line castration resistant metastatic/recurrent disease • AR-targeted agents in non-metastatic CRPC	Treatment change or initiation of systemic treatment in later lines of metastatic disease in low-burden, asymptomatic patients with rising PSA or minimal progression on imaging

recommended with chemotherapy		

Abbreviations.
ADT = androgen deprivation therapy; DT = computed tomography; DRE = digital rectal examination; DT = doubling time; EBRT = external beam radiation; Prostate Cancer therapy; G-CSF = granulocyte-colony stimulating factor; mpMRI = multiparametric magnetic resonance imaging; PCa = prostate cancer; PET = positron emission tomography; Pred = prednisone; PSA = prostate-specific antigen; RP = radical prostatectomy

General Comments:

- ADT has a low frequency of application and is therefore much easier to apply than chemotherapy with less relevant potential side effects concerning the COVID-19 disease, so there is rarely a situation where it cannot be given
- Prefer AR-targeted agents over chemotherapy in mHSPC and mCRPC whenever possible, consider home delivery if feasible
- Minimizing the number of chemotherapy cycles or prolonging cycle length may be justified
- Reduce steroids as concomitant treatment if possible

4. Metastatic Prostate Cancer

a. Hormone Sensitive

Q: In patients presenting with metastatic Hormone Sensitive Prostate Cancer, when can treatment be initiated and what options can be considered?
A:

- ADT can be administered at a lesser frequency than chemotherapy and with less side effects, so there is rarely a situation where it cannot be given
- Consider using 3-, 4-, or 6-month formulations of ADT over monthly injections
- Prefer AR-targeted agents over chemotherapy in mHSPC and mCRPC whenever possible, consider home delivery if feasible
- Minimizing the number of chemotherapy cycles or prolonging cycle length may be justified
- Reduce steroids as concomitant treatment if possible

I. Treatment of Metastatic Hormone Sensitive Prostate Cancer (mHSPC)				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed by 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer-related) deaths very likely if postponed >6 weeks	Life threatening situation or opiod-dependent pain
Level of Evidence	3		2	
COVID-recommendation	Defer by 6 months	Treat before end of 3 months	Treat within <6 weeks	Treat within <24 hours
	For men with low volume metastatic disease when ADT + prostate EBRT is considered, postpone EBRT, until the pandemic is no longer a major threat		Offer immediate systemic treatment * to M1 patients (alphabetic order: abiraterone acetate plus prednisone or apalutamide or enzalutamide)	

- Standard of Care is ADT + something (alphabetic order: abiraterone acetate plus prednisone or apalutamide or enzalutamide, or docetaxel).
- Avoid ADT combined with docetaxel due to the risk of neutropenia and frequent hospital visits during the pandemic –The use of abiraterone acetate with 5 mg prednisone daily might be reconsidered (steroid use)

Abbreviations.

ADT = androgen deprivation therapy; DT = computed tomography; DRE = digital rectal examination; DT = doubling time; EBRT = external beam radiation; Prostate Cancer therapy; G-CSF = granulocyte-colony stimulating factor; mpMRI = multiparametric magnetic resonance imaging; PCa = prostate cancer; PET = positron emission tomography; Pred = prednisone; PSA = prostate-specific antigen; RP = radical prostatectomy

b. Castration Resistant Prostate Cancer

Q: In patients presenting with metastatic Castration-Resistant Prostate Cancer, when can treatment be initialized and what options can be considered?
A:

- ADT has a low frequency of application and is therefore much easier to apply than chemotherapy with less relevant potential side effects concerning the COVID-19 disease, so there is rarely a situation where it cannot be given
- Prefer AR-targeted agents over chemotherapy in mHSPC and mCRPC whenever possible, consider home delivery if feasible
- Minimizing the number of chemotherapy cycles or prolonging cycle length may be justified
- Reduce steroids as concomitant treatment if possible

I. Treatment of Metastatic castration-resistant prostate cancer (mCRPC)				
Priority Category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed by 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer-related) deaths very likely if postponed >6 weeks	Life threatening situation or opiod-dependent pain
Level of Evidence			2	
COVID-recommendation	Defer by 6 months	Treat before end of 3 months	Treat within <6 weeks	Treat within <24 hours
			Treat patients with mCRPC with life-prolonging agents. Base the choice of first-line treatment on the	

			performance status, symptoms, comorbidities, location and extent of disease, patient preference, and on the previous treatment for hormone-sensitive metastatic PCa (HSPC) as well as use of medical resources and specific risk during the COVID-19 pandemic	

*** Chemotherapy should be avoided as much as possible. If absolutely needed: docetaxel 75 mg/m² should be given 3-weekly with systematic G-CSF to avoid a higher number of visits or with 50 mg/m² every 2 weeks. Cabazitaxel 20 mg/m² with systematic GCSF should be given if indicated and no other treatment option is available. Sipuleucel T should not be used (medical resources needed) – Abiraterone + Pred 10 mg / daily might be reconsidered (steroid use).**

Abbreviations.

ADT = androgen deprivation therapy; DT = computed tomography; DRE = digital rectal examination; DT = doubling time; EBRT = external beam radiation; Prostate Cancer therapy; G-CSF = granulocyte-colony stimulating factor; mpMRI = multiparametric magnetic resonance imaging; PCa = prostate cancer; PET = positron emission tomography; Pred = prednisone; PSA = prostate-specific antigen; RP = radical prostatectomy

Abbreviations.

ADT = androgen deprivation therapy; G-CSF = granulocyte-colony stimulating factor

C. Supportive and Palliative Care

1. **Blood transfusion**
   - There is no evidence of COVID-19 transmission via blood products.
   - To lessen symptomatic anemia in patient with malignant condition and receiving chemotherapy, erythropoietin stimulating agents should be considered as an option to avoid additional clinic visits. The risk of thrombosis should be considered, and one should consider symptoms rather than particular hemoglobin threshold. A threshold of about 7g/dl should be considered.
   - Long acting erythropoietin stimulating formulation might be a good choice in this situation.
   - It should be recognized that ESAs generally do not work quickly and, in most studies, result in a 1 to 1.5 g/dL (0.62 to 0.93 mmol/L) change.
   - In patients with severe anemia-related symptoms (even at Hb levels above 7 g/dL [4.35 mmol/L]) and the need for immediate Hb and symptom improvement, the administration of RBC transfusions is the option of choice.

2. **Bone Complications**
   - Withholding bone-targeted agents should be considered in many situations during this pandemic period. If utilized as a parenteral intervention, the injection should be given during an already necessary visit rather than requiring a separate visit
   - Patients should have a dental examination and, when feasible, complete invasive dental treatments before initiating a bone-targeted agent. It should be recognized that dental services may be greatly reduced in many locations and may be limited to emergency dental interventions
   - In high-risk regions, patients might be seen in specialized centers for oral-maxillofacial surgery if usual dentist care is not possible, and if the specialists are open to this approach
   - Patients receiving bisphosphonates for metastatic cancer can be safely changed to a 3-month interval
   - The usual treatment interval of denosumab is every 4 weeks. As it is subcutaneously administered, it can be administered outside of the hospital
   - Using oral bone-targeted agents can also be considered
   - Ensure vitamin D supplementation and adequate intake of calcium throughout treatment with bone-targeted agents to avoid symptomatic hypocalcemia

3. **Pain**
   - Standard algorithm for pain management can be utilized.
   - Ensuring continuity of care and pain medications, especially opioids

- Use of telemedicine
- Maintaining biopsychosocial management
- There are no guidelines to inform physicians and healthcare providers engaged in caring for patients with pain during this period of crisis.

4. **Diarrhea**
   - It is important to recognize that 5-10% of patients with COVID-19 had diarrhea as a symptom
   - Patients should be made aware of the fact that clinical visits due to severe diarrhea should not be delayed during this pandemic
   - Patients undergoing therapy with a relevant risk of treatment-related diarrhea should be specifically made aware of the risk of diarrhea and of necessary basic measures (oral hydration, prescription of loperamide – to be used if needed, how to recognize warning symptoms)
   - Physicians are recommended to follow the standard algorithm for the handling of therapy-induced diarrhea: strongly consider hospital admission in patients with diarrhea CTCAE grade 3-4 or lower stage with additional warning symptoms (e.g. nausea, emesis, cramps, fever, blood in the feces)

5. **Febrile Neutropenia**
   - In patients with solid tumors consider using regimens unlikely to induce febrile neutropenia. There should be considerable evidence to support using regimens with greater neutropenia risk which clearly outweighs considerable risk requiring emergency intervention
   - Consider expanding the indication of G-CSF after chemotherapy to lower the risk of febrile neutropenia.
   - The theoretical raised concern of acute respiratory failure due to G-CSF-induced leukocyte recovery in patients with pulmonary infections due to COVID-19 infection does not outweigh the benefit). However, one must recognize that this approach may require additional visits to the outpatient clinic
   - Well-documented and verified published criteria (see the MASCC febrile neutropenia risk group stratifications) exist for the outpatient treatment of febrile neutropenia in lower-risk group patients, with published randomized trials using oral antibiotics
   - The use of antibiotics prophylaxis and/or prescription of stand-by antibiotics (to be used if needed) should be expanded in the current situation due to a possible risk of a delay or emergency visits for patients who develop fever (amongst other risks). Of course, one must bear in mind specific risks concerning multi-drug resistant bacteria in different regions

- The use of steroids should be critically reviewed and reduced if possible (see also “Nausea and vomiting”)

6. **Nausea and Vomiting**
   - A good strategy would be that, if there is the slightest doubt of the risk of emesis, overprescribe a generous antiemetic prophylactic regimen to lower the risk of additional clinical visits and suffering due to these symptoms. This may include – depending on the emetogenic potential and individual risk factors – the combination of a 5-HT3-RA* plus a neurokinin1-RA plus dexamethasone** (single dose on the day of treatment) plus olanzapine

     - *5-HT3-RA: may consider the long acting 5-HT3-RA palonosetron due to its potential better efficacy in the delayed phase of CINV specifically when reducing/sparing the dexamethasone dose

     - **Dexamethasone: the use of steroids should be critically reviewed A reduced dose of dexamethasone on day 1 without additional use on the following days should be considered even in highly emetogenic chemotherapy. A completely steroid-free antiemetic regimen should only be considered in individual patients strongly felt to be at increased risk of COVID-19 complications with even a single dosing of dexamethasone

7. **End of Life Care**
   - COVID-19 poses additional risk for cancer patients affecting their survival. Discussion regarding end of life care including advance directives should be opened to patients and families. Referral to palliative specialists should be available when needed.

D. Multidisciplinary Meetings

- Due to the emergence of the COVID-19 pandemic, no meetings should be held in person to prevent the transmission of the virus, but the need to determine the treatment plan in dealing with cancer management continues. New platform should be utilized including the use of virtual meeting to facilitate MDTs.

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