MedCrave
Step into the World of Research
Hospice & Palliative Medicine International Journal

Mini Review
Open Access
CrossMark

New trends of cancer treatments using natural medicine Part 2

Abstract

This article is about learning the cancer cells and how they can disrupt the body's functions. The science of cancer and the new cancer trends available are addressed.

Keywords: T cell exhaustion, T(REG) cells, antigen presentation, cytotoxic T lymphocytes, dendritic cells, exclusion, immune checkpoint inhibitors, immunogenic cell death, tumor-associated macrophages, type I Interferon

Volume 8 Issue 4 - 2025

Dr Rebecca L Burkett
Doctorate of Natural Medicine Online, IBEM College, USA

Correspondence: Dr Rebecca L Burkett, Doctorate of Natural Medicine Online, IBEM College, 154 Tollerton Trail, USA, Tel +1 304 5828816

Received: November 25, 2025 | **Published:** December 31, 2025

Introduction

Is learning about cancer cells and how they deliberately affect the body, and how integrative natural medicine into a viable treatment for faster healing. Emerging biologic and microbiome-based approaches.[1]

New trends of cancer treatments using natural medicine Part 2

This article is the extension of Part 1 to give you full access to cancer treatments and other information that is related to cancer. Everyone is scared of the word oncology; people are afraid of this word simply because they do not understand all the planning of taking chemo and other medications, and the cost.[2,3] It doesn't have to be too scary; your cancer provider and family physician should be the ones to give out all the options to choose from. Safety measures are so important to a cancer survivor. Never have a nonmedical provider tell you to stop taking your oncology medications. This will do you more harm than good. It's very illegal to do so. Also, report them immediately to the medical board of examiners.

How to detect cancer cells, which leads to the perfect natural medicine techniques?

Tumor immune dynamics: exhaustion, regulation, and checkpoints. You've named the heart of how tumors outmaneuver immunity. Here's a crisp map linking each concept to what's happening in the tumor microenvironment and why it matters for therapy.

T cell exhaustion in solid tumors

Definition and states: Exhaustion is a dysfunctional program in CD8+\mathrm{CD8^+} T cells driven by chronic antigen exposure, inflammation, and inhibitory signals. Exhausted cells show reduced cytokine production, altered metabolism, and high inhibitory receptor expression (e.g., PD-1, TIM-3, LAG-3). Crucially, there are "progenitor-exhausted" cells (Tcf1+^+, stem-like, checkpoint-responsive) and "terminally exhausted" cells (Tcf1−^-, more dysfunctional, less reversible). The balance between these states shapes responses to immunotherapy.

Microenvironmental drivers: Repeated restimulation with antigen-especially when presented by myeloid cells-pushes T cells toward terminal exhaustion. Limiting non-Repeated restimulation with antigen-especially when presented by myeloid cells-pushes T cells toward terminal exhaustion. Limiting non-productive restimulation or reshaping antigen presentation can preserve progenitor pools and sustain responses.

Treg cells and immune suppression

Role in exclusion and dysfunction: Regulatory T cells (TREG\mathrm{T_{REG}}) suppress effector T cell function via cytokines (IL-10, TGF-β\beta), checkpoint ligands, and metabolic competition, contributing to "immune-excluded" or "immune-suppressed" phenotypes within tumors. Their presence can impede infiltration and reduce cytotoxic activity of CD8+\mathrm{CD8^+} T cells.

Therapeutic angle: Strategies that selectively modulate Treg function in tumors-without systemic autoimmunity-are being explored alongside checkpoint inhibitors to restore effector balance.

Antigen presentation and dendritic cell versus myeloid roles

Quality of antigen presentation: Effective priming depends on conventional dendritic cells (cDC1) that cross-present tumor antigens to CD8+\mathrm{CD8^+} T cells. In tumors, antigen is frequently presented by tumor-associated macrophages and other myeloid cells, which can drive mathrm {CD8^+} T cells. In tumors, antigen is frequently presented by tumor-associated macrophages and other myeloid cells, which can drive repetitive restimulation and deepen exhaustion rather than productive effector function.

Implications: Shifting antigen presentation back toward dendritic cells-via adjuvants, FLT3L, or intratumoral pattern-recognition agonists-aims to expand progenitor-exhausted pools and improve checkpoint responses.

Cytotoxic T lymphocytes and cancer stem cell niches

CTL effectiveness and barriers: CD8+\mathrm{CD8^+} CTLs kill via perforin/granzyme and Fas-FasL pathways, but tumor niches (e.g., cancer stem cell zones) and stromal barriers limit recognition and penetration, fostering immune escape and functional exhaustion.

Remodeling the TME: Targeting stromal factors, normalizing vasculature, and disrupting cancer stem cell-immune crosstalk are emerging to enhance CTL access and resilience.

Immune exclusion phenotypes

What exclusion means: Immune-excluded tumors have T cells trapped at the invasive margin or stromal compartments with minimal

entry into cancer cell nests. Drivers include dense ECM, aberrant vasculature, myeloid-derived suppressor cells, and Tregs, which collectively prevent CTLs from engaging targets.

Overcoming exclusion**:** Approaches include ECM remodeling, anti-angiogenic normalization, chemokine axis targeting, and myeloid reprogramming to convert "excluded" into "inflamed" tumors before or with checkpoint blockade.

Immune checkpoints and therapeutic leverage

Checkpoint landscape: PD-1/PD-L1 and CTLA-4 are central brakes elevated on exhausted T cells and suppressive cells. Checkpoint inhibitors can reinvigorate progenitor-exhausted T cells, but terminally exhausted cells respond less, making the exhaustion state composition a key biomarker for benefit.

Next-gen strategies: Dual or sequential checkpoint targeting (e.g., PD-1 with LAG-3/TIM-3), plus interventions that improve antigen presentation quality or reduce non-productive restimulation, aim to prevent progression to terminal exhaustion and sustain anti-tumor immunity.

Practical synthesis for therapy design

Preserve progenitors: Enhance dendritic cell priming and limit repetitive macrophage-driven restimulation to maintain Tcf1+^+ pools that respond to checkpoints.

Open the door: Tackle exclusion via stromal, vascular, and myeloid remodeling so CTLs can reach tumor nests.

Dial down suppression: Modulate intratumoral Tregs and myeloid suppressors to restore cytotoxic function.

Layer checkpoints smartly: Match blockade strategies to exhaustion states and TME context for durable responses.

Listed below are the current trends of cancer treatments:

Evidence-based integrative care inside major cancer centers. Clinical integrative programs: Leading centers are expanding services like acupuncture, massage, yoga, meditation, and nutrition guidance to ease pain, nausea, fatigue, sleep problems, and stress, integrated with your oncology plan and vetted for safety and evidence. These programs emphasize lifestyle changes (including alcohol reduction) and mind-body tools with documented benefits and low risk.

Personalized guidance: Teams help patients navigate supplements and alternative therapies, focusing on those with supportive data and flagging interactions with chemo, immunotherapy, or radiation.

Botanicals and supplements: measured interest, selective use

Targeted, not broad-spectrum: There's growing patient interest in botanicals (e.g., curcumin, green tea catechins, medicinal mushrooms) and antioxidants, but clinical centers stress individualized review due to drug interactions and timing concerns (especially around immunotherapy and radiation). The trend is toward cautious, case-by-case use rather than blanket recommendations.

Quality control: Emphasis on third-party tested products and coordination with the oncology team is becoming standard practice within integrative services.

Diet and lifestyle: strong, practical evidence focus

Alcohol reduction: Increasing evidence links alcohol to higher risks for several common cancers; integrative programs now explicitly recommend minimizing or avoiding alcohol as part of supportive care and risk-reduction strategies.

Nutrition patterns: Plant-forward, fiber-rich diets; maintaining a healthy weight; and tailoring protein intake during treatment are common guidelines, framed to support treatment tolerance and recovery rather than "curing" cancer.

Physical activity: Gentle to moderate exercise (walking, yoga, tai chi) for fatigue, mood, and function is widely recommended and embedded in many program.

Mind-body therapies: mainstream for symptom relief

Stress, pain, and sleep: Meditation, mindfulness, breathing practices, yoga, and acupuncture are widely used to reduce anxiety, improve sleep, manage pain, and ease treatment side effects; these are now standard offerings in integrative oncology services.

Empowerment without replacement: These therapies aim to support-not replace-medical treatment, helping patients feel more grounded during care.

Emerging biologic and microbiome-based approaches

Bacterial therapies: Novel tumor-targeting bacterial combinations are being researched to attack cancers even when the immune system is compromised, aiming to reduce risks like cytokine release syndrome and broaden eligibility beyond immune-intact patients. Early laboratory and preclinical work suggests selective tumor colonization and destruction, but this is not yet a clinical alternative to standard care.

Trend takeaway: Biotherapy and microbiome-modulating strategies are promising research directions, not "natural" cures available for routine use. If you see clinics claiming immediate availability or guaranteed outcomes, be skeptical.

What to approach with caution

"Cure-all" claims and replacements for chemo/radiation/immunotherapy: Replacing evidence-based treatment with unproven alternatives is risky and often harmful. Reputable integrative programs explicitly steer patients away from this, focusing on safety, symptom control, and complementary support.

Unsupervised supplement stacks: Potential interactions (e.g., antioxidants around radiation, immune-modulating herbs during immunotherapy) require oncology oversight to avoid reducing treatment effectiveness or causing side effects.

How to use integrative care well

Coordinate with your oncology team: Bring any supplement or alternative therapy to your care team before starting; integrated plans reduce risk and improve outcomes.

Prioritize therapies with demonstrated benefits: Acupuncture, yoga/mindfulness, tailored nutrition, alcohol reduction, and gentle exercise have consistent support for quality-of-life improvements.

Stay curious, stay critical: Emerging research like bacterial therapies is exciting-follow it with your clinicians and ask about clinical trials rather than commercial promises.

Case studies

New trends in cancer treatments using natural medicine case studies. It's a hopeful shift: "natural" doesn't mean "instead of,"

it increasingly means "alongside." The most promising trend is evidence-based integrative oncology-using natural compounds and supportive therapies to complement standard treatments, relieve side effects, and sometimes enhance efficacy. Below are concise case-style examples and the key directions shaping this space.[4]

Big-picture overview of natural medicine in oncology

Evidence-driven integrative care: A global survey of oncology professionals shows growing use of acupuncture, yoga, exercise, massage, and nutrition counseling to manage treatment side effects, highlighting integrative therapies as essential adjuncts rather than alternatives.

From nature to drugs: Many approved and investigational anticancer agents originate from natural products, and current discovery pipelines increasingly pair natural scaffolds with modern computational design and clinical translation.

Herbal medicine mechanisms: Contemporary research maps how herbal-derived products modulate tumor immunity, reverse multidrug resistance, and regulate autophagy/ferroptosis, alongside anti-proliferative and anti-metastatic effects.

Active compound focus: Reviews emphasize natural compounds and semi-synthetic derivatives for their chemical diversity and targeted molecular actions, driving both prevention and therapy avenues.

Key trends shaping "natural" cancer care

Integrative symptom management: Structured use of acupuncture for chemotherapy-induced nausea, massage for pain, yoga for fatigue, and exercise/nutrition support is expanding within cancer centers, led by clinician demand and patient-reported benefit.

Rational herbal formulations: Moving from traditional mixtures to standardized extracts and defined active constituents; emphasis on immune modulation, MDR reversal, and stress-pathway targeting (autophagy/ferroptosis).

Natural product drug pipelines: AI/computational screens identify plant/marine scaffolds; medicinal chemistry refines them into clinical candidates, closing the gap from bench to trials.

Side-effect sparing strategies: Natural compounds are explored as radiosensitizers or chemosensitizers at doses designed to reduce toxicity while preserving antitumor effect.

Global adoption with gaps: Uptake is broad, but access, training, and affordability remain uneven—integrative care is valued yet not universally available.

Case studies and clinical-style examples

Integrative supportive care programs in oncology centers

Scenario: A hospital introduces acupuncture, yoga, and nutrition services for patients on chemotherapy and immunotherapy.

Observed outcomes: Reduced nausea, pain, and fatigue; improved quality of life; high clinician endorsement of these modalities as complementary, not alternative, to standard care.

Herbal-derived product targeting multidrug resistance

Scenario: A standardized herbal extract is used adjunctively in a trial setting to modulate efflux pumps and signaling pathways associated with MDR.

Mechanistic rationale: Reversal of MDR via regulation of transporters and stress pathways; potential to restore sensitivity to chemotherapy while controlling proliferation and metastasis.

Natural compound to drug candidate pipeline scenario: A plant-derived molecule is computationally optimized, then advanced through preclinical validation toward early-phase trials.

What "natural" looks like when it works

Defined, standardized interventions: Acupuncture protocols, evidence-based yoga/exercise regimens, and nutrition counseling embedded in oncology care pathways.

Characterized compounds: Extracts or single molecules with known targets and dose ranges, studied for immune modulation, apoptosis, autophagy, and ferroptosis regulation.

Adjunctive mindset: Natural therapies complement-not replace-surgery, chemotherapy, radiotherapy, and immunotherapy; the aim is efficacy plus tolerability.

Challenges and cautions

Access and training gaps: Many regions lack trained integrative practitioners and reimbursement pathways, limiting equitable use.

Standardization and quality control: Herbal products require rigorous sourcing, dosing, and interaction checks to avoid variability and potential harm.

Evidence maturity: While the pipeline is rich, clinical evidence quality varies; natural products must meet modern trial standards before routine therapeutic use.

If you're considering natural or integrative options

Talk to your oncology team: Ask about integrative services available at your center and how they fit with your current treatment plan.

Prioritize evidence-backed modalities: Acupuncture, yoga, exercise, massage, and nutrition counseling have growing clinical support for symptom relief.

Use standardized products only: If exploring herbal compounds, discuss quality, dosing, and potential interactions with your clinician or pharmacist, and look for products with clinical data.

Conclusion

When it comes to new trends, make sure they can be integrated with the new cancer pharmaceuticals. Remember, not everyone can take all-natural medicines, so please get all the information you can and give it to your oncologist and your family doctor. Safety knowledge, not all natural medicines need to be listed as Clinical.[5] For example, yoga, journaling, coloring mandalas, and Reiki techniques, which is a non-touch healing. Trend takeaway**:** Biotherapy and microbiome-modulating strategies are promising research directions, not "natural" cures available for routine use. If you see clinics claiming immediate availability or guaranteed outcomes, be skeptical.

Acknowledgments

None.

Conflicts of interest

The authors declares that there are no conflicts of interest.

References

1. National Center for Biotechnology Information. NIH and all NCBI Literature Resources. 2025.
2. National Library of Medicine. Pubmed. 2026.
3. Learn essential career and life skills. Udemy online education platform. 2024.
4. Research with impact. Oxford Academic. 2025.
5. About Cell Press. Cell Press. 2022.

Citation: Burkett RL. New trends of cancer treatments using natural medicine Part 2. *Hos Pal Med Int Jnl.* 2025;8(4):88–91. DOI: 10.15406/hpmij.2025.08.00281