

Contents

1 Overview of Vitamin C and Cancer	1
History of Vitamin C: A Briefing	1
General Mechanisms of Vitamin C	2
Biochemistry of Vitamin C	2
Biological Functions of Vitamin C	3
Aspects of Vitamin C Dosing	4
Dosing Vitamin C: The Evolutionary Perspective.	4
Rethinking the Classical Vitamin C and Cancer Controversy.	6
Contradictory Data on Vitamin C and Cancer	6
Intravenous Vitamin C Essentials.	7
General Information on Intravenous Vitamin C	7
Application and Dosage	7
Most Relevant Mechanism(s) of Action	8
Prevalence of Use	9
Cost and Expenditure	9
Adverse Events/Contraindications.	9
General Safety and Toxicity Considerations of High Doses of Vitamin C.	10
References	11
2 Anticancer Mechanisms of Vitamin C	17
Cancer Preventative Mechanisms of Vitamin C	17
Antioxidant Properties of Vitamin C.	17
Primary Anticancer Mechanisms of Vitamin C	18
Oxidative, Oxidant, and Pro-oxidant Properties of Vitamin C	18
Hydrogen Peroxide and Vitamin C.	18
Other Vitamin C Oxidation Products with Anti-cancer Potential	20

Secondary Anticancer Mechanisms of Vitamin C: Host	
Resistance to Cancer	21
Vitamin C and Intracellular Matrix.	21
Vitamin C and Immuno-competence.	22
References	22
3 Potential Therapeutics for Vitamin C and Cancer	27
Phase I Trials, Case Studies, Retrospective Studies, IV Vitamin C, and Quality of Life	27
Vitamin C Phase 1 Clinical Trials	27
Case Series/Studies	28
Retrospective Studies	29
Vitamin C and Quality of Life.	30
Vitamin C, Chemotherapy, and Radiotherapy	33
The Antioxidant and Chemotherapy Debate in Cancer	
Treatment: The Modern Controversy	34
In Vitro/In Vivo Studies	37
Animal Studies on the Interaction of Vitamin C and Antineoplastic Agents.	47
Studies in Cancer Patients.	48
References	50
Conclusion	57
Appendix: Increasing the Effectiveness of Intravenous Vitamin C as an Anticancer Agent	59
Index	69



<http://www.springer.com/978-1-4939-1889-8>

New Insights on Vitamin C and Cancer

Gonzalez, M.J.; Miranda-Massari, J.R.

2014, VIII, 69 p. 1 illus., Softcover

ISBN: 978-1-4939-1889-8