

FLUORIDE AND FLUOROSIS

Fluorosis is a world wide problem, more prevalent in developing countries. The research work in this field provided with major out come in the following aspects

- Reversal of fluorosis – Proved through controlled field studies.
- **Development of new defluoridation process (KRASS process)**
- **Development of new tooth powder, useful to remove the dental stains**
- Pathophysiology of fluorosis
- Synergistic effects of Aluminum and fluoride resulting in aggravation of skeletal symptoms and poor scholastic performance

Many scientific papers have been published in national and international journals, and, presented in national and international conferences.

A. INTERNATIONAL REFEREED JOURNALS

1. Gupta S, Seth AK, Gupta A and Gavane AG: Transplacental passage of Fluorides in Cord Blood. The Journal Of Pediatrics, USA, 1993(July):137-141
2. Gupta SK, Gupta RC, Seth AK and Chaturvedi CS: Increased incidence of Spina bifida occulta in fluorosis prone areas. cta Paediatrica Japonica, 37(4):1995
3. Gupta SK, Gupta RC, Seth AK and Gupta A: Reversal of fluorosis in children. ACTA PEDIATRICA JAPONICA, 38, 513-519:1996
4. Agrawal KC, Gupta SK and Gupta AB Development of New Low Cost Defluoridation Technology (KRASS). Water Science And Technology, UK. 40 (2), Sept 1999 : 167-173
5. Yadava S., Khan T.I., Gupta Sunil K., Gupta A. B. and Yadava R.N. Fluorosis in India with special reference to Rajasthan in Environmental Modeling Eds V.P. Singh, I.I.W. Seo and J.H. Sonu. Water Resources Publications, LLC, USA, 1999, pp 3-10.
6. S. K. Gupta, T.I. Khan, R. C. Gupta, A. B. Gupta, K.C. Gupta, Pradeep Jain and A. Gupta. Compensatory hyperparathyroidism following high fluoride ingestion- a clinico-biochemical correlation. Abstract published in Fluoride 34(2), 156, 2001.

B. INDIAN JOURNALS

- 7 Gupta SK, Gupta RC and Seth AK: reversal of Clinical and Dental fluorosis. Indian Pediatrics,31:439-443,1994
- 8 Gupta SK, Gupta RC, Seth AK and Sapra M. Normophosphatemic Hypocalcemia with increased Serum alkaline phosphatase in children consuming high fluoride in drinking water. Rajasthan Medical Journal,(IN PRESS)
- 9 Gupta SK, Gupta RC, Seth AK and Sapra M . Low Serum and Leucocyte Ascorbic acid in children consuming high fluoride in drinking water. Rajasthan Medical Journal, 36 (1&2): 53-57; 2000
- 10 Gupta SK. A Process for defluoridation of water by a filter bed using indigenous material. Indian Journal Of Environmental Sciences 1 (2): 149 - 156,1997
- 11 Gupta SK, Gupta AB, Dhindsa SS, Seth AK, Agrawal KC and Gupta RC. Performance of a Domestic filter based on KRASS defluoridation process. Journal of IWWA 3(XXXI), 193 – 200, 1999
- 12 Gupta SK, Khan TI, Gupta RC, Gupta AB, Gupta KC, Jain P, and Gupta A. Compensatory hyperparathyroidism following high fluoride ingestion - a clinico - biochemical correlation. INDIAN PEDIATRICS 2001; 38: 139-146
- 13 Gupta SK, Gupta RC, Seth AK. Increased incidence of Spina bifida occulta in fluorosis prone areas. Indian Pediatrics,31:1431-1432,1994
- 14 Gupta SK, Gupta RC, Seth AK. Reversal of Manifestations of Fluorosis- An unusual finding. SDMH Jour. Vol. 16, No. 3, March 1993
- 15 Gupta SK and Gupta AB. Strategy for fluorosis mitigation in view of the recent advances in fluorosis and defluoridation. 38th annual convention, IWWA, Jaipur, 2006, 105-112.
- 16 S. K. Gupta, R. C. Gupta, A. K. Saxena and A. B. Gupta Monograph on Fluoride toxicity and fluorosis Published by Applied Research Centre, S.M.S. Medical College, Jaipur, March 3, 2001.
- 17 A.B. Gupta, Sunil K. Gupta. Recent advances in fluorosis and defluoridation. Change Management Times, March 2003, pp 15-16, ASCI, India.
- 18 George Suja, Prabhat Pandit, **A.B.Gupta**, Sunil K. Gupta Defluoridation using Aluminium Salts presented by Ms Suja George as distinguished speaker at Technical seminar on water and wastewater management, Jaipur organized by "Everything about water", New Delhi, August 3, 2007.

- 19 Gupta SK, Gupta RC, Gupta K and Trivedi HP. Changes in serum seromuroid following compensatory Hyperparathyroidism: a sequel to chronic fluoride ingestion. Indian Journal of Clinical Biochemistry, 2008 / 23 (2) 176-180.
- 20 Sunil K. Gupta, A. B. Gupta, R.C. Gupta, Shalini Yadav, R. N. Yadav and Pramod Shindu. Recent advances in treatment and prevention of fluorosis in Wastewater treatment and waste management by V.P. Singh and R.N. Yadav (Eds), Allied publishers, 2003 pp 408-414.
- 21 Sunil K. Gupta, A. B. Gupta, R.C. Gupta, R. N. Yadav, K.C. Agrawal and Pramod Shindu. Changes in serum acid (N- acetyl Neuraminic acid) and serum seromuroid before and after vitamin C and D and calcium supplementation in fluorosis in Wastewater treatment and waste management by V.P. Singh and R.N. Yadav (Eds), Allied publishers, 2003 pp 415-422.
- 22 Ailani V, Gupta RC, Gupta SK and Gupta K. Oxidative stress in cases of chronic fluoride intoxication. Indian Journal of Clinical Biochemistry. Indian Journal of Clinical Biochemistry, 2009 / 24 (4) 426-429
- 23 Gupta SK, Gupta RC, Gupta AB. Is There a Need of Extra Fluoride in Children? Indian Pediatrics, 2009; 755 (46), 755-759.
- 24 **A. B. Gupta**, Sunil K. Gupta, B. S. Jajoo, Ashok Kadaverugu. Synergistic effect of fluoride and aluminium in manifestation of fluorosis- a case study of (Chaksu) Jaipur, India. The 1st Environment Asia International Conference, Bangkok, THAILAND March 22- 25, 2011.
- 25 **A. B. Gupta and** Sunil K. Gupta - Delivered an invited talk titled "Presence of fluorides and nitrates in drinking water and human health – a case study of Rajasthan", at the International Conference on Environmental Health and Technology, March 15-17, 2010, IIT Kanpur. The abstract co-authored by Dr Sunil K. Gupta was published in the proceedings.

C. PAPERS PRESENTED IN INTERNATIONAL CONFERENCES

26. Reversal Fluorosis in Children. Asian Conference Of Pediatrics, New Delhi 1994
27. K. C. Agarwal, Sunil K. Gupta & A. B. Gupta. Development of new low cost defluoridation technology (KRASS). Presented at the first International specialized conference on water quality and its management, sponsored by IAWQ and CBIP,

- New Delhi, March 2-6, 1998. The paper was published in the proceeding pp 542-548.
28. Sunil K. Gupta, R.C. Gupta, A.B. Gupta, J.K. Bassin & A.K. Seth, "Hyperthyroidism secondary to high fluoride ingestion: a possible pathophysiology of fluoride toxicity." Paper presented at V International Congress of tropical pediatrics, Feb. 10-15, 1999, Jaipur. Abstract of the paper was published in the proceedings.
 29. Yadava S., Khan T.I., Gupta Sunil K., Gupta A. B. and Yadava R.N. Fluorosis in India with special reference to Rajasthan. Presented at International Conference on Water, Environment, Ecology, Socio-economics and Health Engineering (WEESHE), Oct 18-21, 1999, Seoul National University, Seoul, Korea.
 30. Recent advances in treatment and prevention of fluorosis. 3rd TRIENNIAL COMMONWEALTH DENTAL ASSOCIATION & 54TH INDIAN DENTAL ASSOCIATION CONGRESS, 2000, NEW DELHI, INDIA
 31. Fluoride and Fluorosis. XXIX International conference of the International Society for Fluoride research. December 2-5, 2010, Jaipur, India

D. PAPERS AT NATIONAL CONFERENCES:

32. A.B. Gupta, Sunil K. Gupta, K.C. Agarwal & Alka Gupta "Use of Aluminum salts in defluoridation: a cause of concern?", presented at National Seminar on Fluoride contamination, fluorosis and defluoridation techniques, organized by DST Raj & UNICEF, Udaipur, February 25-27, 1999.
33. A.B. Gupta "Fluorosis & defluoridation" Workshop on Ground water Resources Planning & Management, July 27, 1998, RRC, Bhopal.
34. A.B. Gupta and Sunil K. Gupta. Recent advances in fluorosis and defluoridation with special reference to Rajasthan. Presented at Workshop on Medical Geology IGCP-454, Organized by GSI, Feb.3-4, 2004, Nagpur. Paper published in "Special Lecture volume" of the workshop as well as the workshop proceedings (pp 38-41).
35. A.B. Gupta, Sunil K. Gupta and K.C. Agarwal. Aluminum concentration in water defluoridated by three methods based on aluminum compounds. Presented at National Workshop on Control and mitigation of excess fluoride in drinking water, Organized by PHED Rajasthan and UNICEF, Jaipur, Feb.5-7, 2004, Jaipur. Paper published in the workshop proceedings on pp T-4:57-63.

36. A.B. Gupta and Sunil K. Gupta, Recent advances in fluorosis and defluoridation with special reference to Rajasthan. Workshop on Environment and pollution awareness: Techno-scientific and social perspectives, Sobhasaria Engineering College, Sikar, June 13, 2004.
37. Sunil K. Gupta and A.B. Gupta. Need for revision of standards for fluorides- a techno medical analysis, National workshop on assessment of current and futuristic water quality standards in India, organized by NEERI and WHO, Delhi, Oct 18-19, 2005.
38. Sunil K. Gupta and A.B. Gupta. Strategy for Fluorosis mitigation in view of the recent advances in fluorosis and defluoridation, Annual Convention of IWWA, Jaipur, January 6-8, 2006. The paper was published in the proceedings.