Rhode Island Quality Partners, Inc.

Primary and Secondary Prevention of Stroke

Andrew Sucov, MD

Stroke is a leading cause of death and disability in the United States, with an estimated 700,000 events annually.[1] Typically, stroke ranks third in most common causes of death, but a large proportion of victims survive with significant disability, causing economic impact along with the medical disability. Aggressive approaches to prevention and treatment of cardiovascular diseases have led to an increased focus on prevention and intervention in cerebrovascular disease. This review will focus on primary and secondary prevention of stroke, especially regarding some of the newer agents and approaches.

RISK FACTORS[1]

Nonmodifiable risk factors:

- Age: risk of stroke doubles with each decade after age 55.
- Sex: more prevalent in men, but the case-fatality rate is greater in women.
- Ethnicity: blacks and hispanics show approximately twice the risk of stroke of whites.
- Family history: parental history of stroke increases the risk of stroke (fraternal greater than maternal).

Modifiable risk factors:

- Hypertension: risk of stroke rises in direct correlation with both systolic and diastolic blood pressure.
- Smoking: current smoking approximately doubles the risk of stroke.
- Diabetes: increases risk of stroke from 2- to 6-fold, especially when combined with hypertension or smoking.
- Asymptomatic carotid stenosis: roughly 10-fold increase in stroke rate for >60% stenosis.
- Atrial fibrillation: responsible for ~50% of cardioembolic strokes, and 30- to 50-fold increase in risk of stroke if not treated.
- Other cardiac disease: dilated cardiomyopathy, valvular heart disease and intracardiac congenital defects predispose to cardioembolic strokes.
- Sickle cell disease: approximately 10% of patients with SS disease will have strokes by age 20. Patients with evidence of increased cerebral blood flow velocity by transcranial doppler are at particularly high risk.
- Hyperlipidemia: cholesterol > 240 is associated with a doubling of stroke risk.

Treatment recommendations:

- Hypertension: screen for hypertension every two years, with goal of treatment SBP 140, DBP 90. All drug classes appear to have beneficial effect - approximately 40% risk reduction if goal attained.
- Smoking: cessation leads to 50% reduction in risk within one year, and baseline risk within five years.
- Diabetes: tight blood pressure control reduces stroke risk by 45% in diabetics. No apparent benefit for stroke risk from tight glycemic control, but other complications are reduced.
- Asymptomatic carotid stenosis: carotid endarterectomy for patients with > 60% occlusion by surgeon with < 3% morbidity/mortality rate leads to 50% reduction in risk, from 2% to 1%. Because of significant potential complications, may not be appropriate for all patients or with all surgeons.

- Sickle cell disease: screen children with SS disease for increased cerebral blood flow velocity every 6 months, and consider aggressive transfusion (to < 30% Hb SS) - 90% risk reduction. Complications from transfusion may result.
- Atrial fibrillation: antithrombotic treatment with warfarin or aspirin based upon risk assessment (see reference 2 for complete details).
- Hyperlipidemia: use of "statin" agents can reduce stroke risk 20-30% in patients with concomitant cardiac disease. No evidence of stroke reduction in patients without cardiac disease at this time.

Secondary prevention

Once a patient has had a stroke, therapy is focused on preventing further strokes. All the modifiable risk factors should be addressed aggressively. In addition, antithrombotic therapy should be strongly considered. Four different treatment regimens have been studied: aspirin alone; ticlodipine (Ticlid®) alone; clopidogrel (Plavix®) alone; and aspirin and dipyridamole (Persantine®) [Aggrenox®] together.

Aspirin is the prototypical antithrombotic treatment. Its use has been well studied, and has consistently shown benefit. Aspirin's effects are on both platelet aggregation as well as vasodilation, mediated via prostaglandin synthesis in tissues other than platelets. Many studies have reviewed the optimal dosage, and there does not appear to be any difference in effect between doses ranging from 50 mg to 1200 mg daily.[3,4] Formulations in the US are routinely 81 mg and 325 mg/dose - typically once per day. Use of aspirin is associated with a roughly 20% reduction in incidence of second stroke. Side effects are typically mild, but can include gastritis or frank GI bleeding, and risk of bleeding is associated with increasing dosage. Minimizing other antiplatelet agents (alcohol, NSAIDs) will decrease the risk. No current recommendation exists for use of aspirin prior to a first cerebral event as exists with cardiac disease.

Ticlodipine (TC) is a synthetic agent that affects platelet function via cell membranes, not via prostaglandin synthesis. It is generally dosed as 250 mg BID. Use of TC is associated with a roughly 25% decrease in recurrent stroke compared with aspirin alone. Because of rare but serious side effects (predominantly neutropenia (0.9%) and TTP), usage is reserved for those who fail aspirin treatment.

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Clopidogrel (CL) is chemically related to TC, and functions by irreversibly binding to the IIb/IIIa receptor on the platelet surface. Again, as prostaglandin synthesis is not affected, the potential for combinations with aspirin are physiologically possible, but have not been established by the literature. CL is generally dosed as 75 mg daily. Use of CL is associated with a roughly 9% reduction in second strokes compared with aspirin alone. While not clearly studied in the literature, there may be additional risk-reduction in patients with peripheral vascular disease. Serious side effects are rare.

Aggrenox® showed a 37% reduction in stroke compared with aspirin usage alone. In the studies, aspirin was dosed at 25 mg BID and DP at 200 mg BID. Combination formulation is available. Adverse events were minor, but hypotension may occur.

To date, few studies have been published that directly compare these regimens to each other. In addition, there is little guidance for the clinician on what to do with treatment failures - increasing doses of previous medication, switching to another medication, or combining medications. Several large studies currently underway should address these issues in the near future. Since little evidence exists to guide the clinician, some have based decisions upon costs of treatment and side effects.[3] Use of TC is generally restricted to patients with aspirin intolerance due to severe side effect profiles. CL has slight advantages over aspirin, but is far more expensive and use should be limited to treatment failures. No literature supports the use of combined CL and aspirin, but they are being used this way every day. Literature does support Aggrenox®, which may be the preferred option after failure on aspirin as both the costs and side effects of DP are low. Finally, patients with atrial fibrillation or structural cardiovascular/valvular disease may require anticoagulation, with or without any additional medication.[2]

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Health by Numbers

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Cancer Incidence in Rhode Island Cities and Towns, 1987-2000

John P. Fulton, PhD, and Leanne Chiaverini

Since the recording of its first cancer case reports in October 1986 the **Rhode Island Cancer Registry (RICR)** of the Rhode Island Department of Health has been asked by various sources to produce cancer incidence rates for municipalities. Doing so requires at least ten years of cancer case reports and appropriate population data from censuses of the state's population. With the recent release of detailed demographic information for municipalities from the United States Census of 2000, it has become possible for the first time to produce cancer incidence rates for the 39 cities and towns of Rhode Island.

Methods

Counts of malignant neoplasms diagnosed between January 1, 1987, and December 31, 2000, categorized by age, sex, anatomical site, and municipality were prepared from cancer case reports made to the RICR. Municipality of residence at diagnosis was ascertained from three separate data fields: municipality, census tract, and zip code. Of 76,327 cases of malignant neoplasms diagnosed between January 1, 1987, and December 31, 2000, municipality of residence at diagnosis could be ascertained unambiguously in 97%. Another 0.2% included place names and corresponding zip codes that overlap more than one municipality. In these cases, the municipality identified as "primary" for the zip code by the United States

Table 1. Age-adjusted, sex-specific statewide and municipal cancer incidence rates per 100,000, Rhode Island, 1987-2000.

	Males				Females			
Municipality	Colon	Lung	Prostate	All*	Colon	Lung	Breast	All*
State	82.6	105.8	153.0	601.4	56.4	54.3	130.6	435.7
Barrington	81.1	87.9	173.3	581.4	49.8	42.1	146.4	436.5
Bristol	79.3	101.0	143.5	576.6	49.2	36.5	129.7	375.7
Burrillville	89.9	110.9	146.1	556.4	61.2	42.8	113.6	383.8
Central Falls	83.3	147.5	117.4	621.4	55.0	59.0	101.7	398.4
Charlestown	51.9	82.8	224.7	629.9	46.8	75.5	138.9	472.3
Coventry	85.2	124.3	149.7	607.0	61.6	52.9	134.3	445.5
Cranston	86.1	100.6	142.1	592.1	56.5	52.3	135.1	431.0
Cumberland	76.9	81.9	161.1	545.6	66.0	42.5	135.2	429.2
East Greenwich	90.6	105.8	240.4	726.1	68.7	42.3	175.2	508.5
East Providence	82.8	109.1	146.5	591.7	62.1	49.8	127.1	438.6
Exeter	51.0	98.0	125.3	449.0	52.1	51.5	120.7	427.8
Foster	57.2	86.6	175.0	590.6	40.8	71.0	163.5	454.3
Glocester	43.2	73.6	129.1	449.3	44.1	52.6	96.8	354.8
Hopkinton	102.5	100.7	176.9	669.3	61.5	62.6	151.3	512.4
Jamestown	45.8	80.2	196.3	623.6	58.9	66.0	152.4	476.3
Johnston	85.4	113.6	140.0	604.2	58.5	56.0	147.1	468.6
Lincoln	79.2	90.1	150.1	567.5	49.2	36.3	114.9	365.0
Little Compton	65.2	108.1	169.5	587.2	29.2	39.7	141.1	422.0
Middletown	70.6	111.7	236.1	693.8	58.3	70.2	146.4	472.2
Narragansett	77.1	84.9	198.2	579.0	68.7	54.6	130.6	457.6
New Shoreham	20.8	81.9	188.3	636.6	0.0	60.4	174.3	394.0
Newport	76.4	107.3	247.6	716.6	58.3	72.4	139.9	480.9
North Kingstown	96.4	102.2	207.8	706.0	50.9	61.9	139.1	470.7
North Providence	89.4	103.0	124.9	594.2	51.1	56.1	131.8	425.0
North Smithfield	72.7	77.5	118.4	523.7	64.6	45.0	115.8	431.0
Pawtucket	94.5	113.1	130.8	605.0	55.7	52.7	123.2	428.1
Portsmouth	87.4	97.1	202.3	598.5	63.1	62.4	153.1	468.0
Providence	72.2	111.6	136.7	588.7	53.2	56.7	123.2	435.5
Richmond	89.6	102.0	178.5	671.3	47.9	64.4	75.2	331.8
Scituate	66.2	125.2	176.7	602.1	51.6	42.1	167.3	438.1
Smithfield	74.2	93.9	151.8	581.3	54.4	59.5	130.0	435.3
South Kingstown	67.9	99.5	187.0	608.0	56.0	57.0	149.4	447.6
Tiverton	76.1	84.0	149.4	531.3	49.2	46.3	104.1	377.2
Warren	82.1	98.7	137.5	575.7	53.4	59.1	130.6	427.0
Warwick	89.8	114.1	156.8	637.9	57.8	65.1	133.7	460.8
West Greenwich	91.2	137.3	182.0	637.6	46.6	93.6	109.5	475.5
West Warwick	103.8	125.3	144.1	649.9	57.1	59.7	123.3	440.5
Westerly	78.5	89.7	174.0	625.1	61.1	46.8	127.3	433.7
Woonsocket	102.6	121.0	125.5	608.7	59.1	53.0	119.2	425.0

* All cancers combined

Table 2. Statewide cancer incidence rates per 100,000 and standard deviations of municipal rates, Rhode Island, 1987-2000.						
	Males			Females		
Site	Statewide Rate	Standard Deviation	SD as % of State Rate	Statewide Rate	Standard Deviation	SD as % of State Rate
Colon	82.6	17.5	21.1%	56.4	11.8	20.8%
Lung	105.8	16.7	15.8%	54.3	11.8	21.8%
Prostate	153.0	34.6	22.6%	--	--	--
Breast	--	--	--	130.6	20.8	15.9%
All*	601.4	59.2	9.8%	435.7	39.8	9.1%

* All cancers combined

Postal Service was selected for use, or absent this information, the largest municipality associated with the place. The remaining cases (slightly less than 3%) contained no useful information on municipality of residence at diagnosis. To avoid underestimating incidence rates, these cases were randomly assigned to municipalities in proportion to the estimated populations of the municipalities for 1994.

Counts of the Rhode Island population by age, sex, and municipality were obtained from publications of the 1990 and 2000 United States Censuses of Population.[1] Analogous counts were estimated for the years 1991-1999 by linear interpolation, and for the years 1987-1989 by linear projection, using data from the two censuses.

Age-adjusted sex-specific statewide and municipal cancer incidence rates were calculated from cancer case reports, actual and estimated counts of the Rhode Island population, and the Year 2000 United States Standard Population.[2] Rates were calculated for all cancers combined and for the four most common malignancies, cancers of the colon-rectum ("colon"), lung-bronchus ("lung"), prostate (males only), and breast (females only).

Table 3. Statewide and municipal cases of diagnosed cancer, Rhode Island, 1987-2000.								
	Males				Females			
Municipality	Colon	Lung	Prostate	All*	Colon	Lung	Breast	All*
State	5132	6820	9849	38346	5420	4793	10881	37981
Barrington	88	95	185	623	68	59	196	587
Bristol	122	167	244	936	108	74	231	720
Burrillville	75	94	120	473	80	49	128	454
Central Falls	76	137	106	576	93	84	144	579
Charlestown	24	41	110	305	26	44	75	256
Coventry	151	232	274	1121	163	136	336	1132
Cranston	472	561	814	3291	491	396	979	3280
Cumberland	149	171	322	1086	191	121	353	1157
East Greenwich	67	76	173	535	71	42	177	517
East Providence	296	404	543	2125	376	266	626	2302
Exeter	13	28	33	131	18	18	41	148
Foster	13	19	42	141	12	18	48	129
Glocester	20	41	56	217	23	29	61	208
Hopkinton	37	42	66	262	31	31	75	255
Jamestown	14	30	73	216	26	29	66	205
Johnston	166	229	285	1195	176	149	372	1248
Lincoln	109	131	218	803	102	72	198	672
Little Compton	18	28	48	159	10	14	43	132
Middletown	68	113	236	702	96	101	201	680
Narragansett	66	75	174	517	73	62	139	496
New Shoreham	2	6	14	45	0	6	13	31
Newport	111	158	361	1064	141	161	285	1043
North Kingstown	127	143	281	972	96	116	260	882
North Providence	220	259	317	1458	196	195	429	1440
North Smithfield	56	60	93	406	79	46	114	453
Pawtucket	427	518	607	2760	406	353	761	2777
Portsmouth	83	105	200	611	81	83	199	609
Providence	585	911	1127	4860	717	668	1394	5238
Richmond	23	30	47	177	14	17	27	107
Scituate	42	78	111	382	37	31	122	318
Smithfield	87	112	178	687	105	99	203	728
South Kingstown	90	135	252	820	105	97	253	781
Tiverton	82	89	158	563	64	61	133	481
Warren	66	82	116	474	68	67	138	477
Warwick	515	698	949	3788	518	549	1058	3775
West Greenwich	16	25	32	123	8	19	31	112
West Warwick	170	233	258	1144	145	144	281	1053
Westerly	120	139	281	976	141	96	239	876
Woonsocket	266	325	345	1622	265	191	452	1643

* All cancers combined

Results

The statewide age-adjusted cancer incidence rate for all cancers combined is 601.4 per 100,000 among males and 435.7 per 100,000 among females. (Table 1) By municipality, rates among males vary from 449.0 for Exeter to 726.1 for East Greenwich, with a standard deviation of 59.2 over the 39 cities and towns. (Table 1) Municipal cancer incidence rates for all cancers combined among females vary from 331.8 for Richmond to 512.4 for Hopkinton, with a standard deviation of 39.8 over the 39 cities and towns.

Measured relative to statewide incidence rates, the standard deviations of the municipal rates for all cancers combined were 9.8% for males and 9.1% for females. (Table 2) Municipal cancer incidence rates for the four most common site-specific cancers vary more widely over 39 cities and towns. Their standard deviations range from 15.8% to 22.6% of the corresponding statewide rates.

Discussion

Cancer is a major cause of morbidity and mortality in Rhode Island, as it is in the United States as a whole. About four out of every 10 people in Rhode Island will develop cancer sometime in the course of their lives, and half of them will die of the disease. Close to 4% of the state's population (nearly 40,000 people) suffer from cancer at any one time.

Cancer is considered a public health problem because some cancers are preventable, and others controllable, through environmental or population-based interventions. For this reason, the United States[3] and Rhode Island[4] both have established clearly articulated cancer control objectives for their populations.

Among the many different forms of cancer that beset humans, cancers of four anatomical sites clearly predominate in the United States: 1) cancer of the colon, 2) cancer of the lung, 3) cancer of the prostate (males), and 4) cancer of the breast (predominantly females). Of these four, the first two are largely preventable, and the last two are more easily controlled if identified as small tumors. For this reason, all four figure prominently in cancer control objectives, using population-based prevention and early detection strategies proven to be effective in research studies.[3,4]

The relative effect of proven cancer control interventions from place to place may be examined by comparing cancer incidence rates computed from cancer registry data. Examining differentials in cancer incidence rates by municipality, for example, may be helpful in targeting local cancer control interventions. For example, municipalities with high lung cancer incidence rates might consider targeting the reduction of tobacco use, while those with high colorectal incidence rates might consider ways of increasing the proportion of eligible persons receiving endoscopic exams of the colon. On the other hand, municipalities with low prostate cancer incidence rates or low breast cancer incidence rates might consider ways of promoting screening tests for these cancers.

A caution that should be observed in comparing rates across geographic entities with small populations is that random factors (factors unrelated to the cause of cancer or their control) are more likely to influence cancer incidence rates in smaller populations, where the numbers of cases are relatively small, than in larger populations. (Table 3) Nonetheless, when interpreted judiciously, municipal cancer rates serve as a good introduction to more comprehensive thinking about the factors that cause and reduce the cancer burden (incidence, prevalence, and mortality) across geographic areas.

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– A Physician's Lexicon –

Diseases Named After Geographic Sites

The names of cities have frequently been used to define such varied things as prepared foods [e.g., hamburger, bologna, wiener schnitzel, consomme madrilene], cooking styles [e.g., lyonaisse, milanese], fabrics [e.g., calico named after Calicut, denims named after de Nims, jeans named Genes, the French spelling of Genoa], and even automobile models [e.g., Monte Carlo, Monterey]. And these cities have taken understandable pride in such namings. But, on the other hand, when diseases are linked with the names of cities, the town fathers vehemently object, feeling that their community has been unjustly stigmatized.

Typically, then, the name of a city [or geographic region] is exploited when some disease, usually infectious, is first encountered within its jurisdiction. For example, in 1946 public health officials observed a neuromuscular disease, clinically simulating acute poliomyelitis, affecting a few children in the Hudson Valley town of Coxsackie. Accordingly, the causative virus and the disease were named after the town. In 1934 a somewhat similar disorder, but with high fever and associated with chest pains, was seen on the Danish Island of Bornholm; and Bornholm disease was eventually shown to be caused by the Coxsackie virus.

In 1968 a small cluster of pneumonia cases was recorded in Pontiac, Michigan. Years later, Pontiac fever was shown to be caused by the *Legionella* organism.

Malta fever, now better known as brucellosis or undulant fever, was first identified on this island by David Bruce. Aleppo [Syria] sore is but one of many names given to the dermatological manifestations of the parasitic disease caused by *Leishmania tropica*. The state of California has had more than its share of geographic names appended to diseases. There is tularemia, caused by *Francisella tularensis* and named after Tulare County; San Joaquin Valley fever, a systemic mycosis caused by *Coccidiodes immitus*; and California encephalitis, an arbor virus infection.

Valleys and rivers also provide names for a number of infectious processes: Murray Valley [Australia] fever, a viral encephalitis; Rift Valley fever; Hantaan fever [named after a Korean river]; Ebola fever [named after a river in northern Congo]; and West Nile fever.

Various forms of arthropod-borne viral infections of the brain still carry their earlier geographic names: Japanese B, St. Louis, Venezuelan and Ilheus [Brazil] encephalitis.

In the year 430 BC, Athens was devastated by a lethal communicable disease which historians now call the Athenian Plague. Fortunately, Athens' self-esteem as home of Western philosophy and early democracy has overshadowed its reputation as the site of Europe's first urban epidemic.

Cities such as Lyme, Connecticut, and St. Louis, Missouri, lament the reality that they are indelibly linked with certain diseases. Yet their burdensome fate is small when compared with the city of Sodeom [cf. Genesis 18,19] identified for all eternity as the site of such practices as bestiality and sodomy.

– Stanley M. Aronson, MD, MPH

Vital Statistics

Rhode Island Department of Health
Patricia A. Nolan, MD, MPH, Director of Health

Edited by Roberta A. Chevoya

Rhode Island Monthly Vital Statistics Report

Provisional Occurrence Data from the Division of Vital Records

Underlying Cause of Death	Reporting Period			
	May 2001	12 Months Ending with May 2001		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	259	3,089	294.7	4,484.5 **
Malignant Neoplasms	205	2,415	230.4	6,584.0
Cerebrovascular Diseases	41	504	48.1	720.0
Injuries (Accident/Suicide/Homicide)	25	375	35.8	6,531.0
COPD	44	517	49.3	472.5

Vital Events	Reporting Period		
	November 2001	12 Months Ending with November 2001	
	Number	Number	Rates
Live Births	832	13,074	12.5*
Deaths	860	10,165	9.7*
Infant Deaths	(15)	(113)	8.6#
Neonatal deaths	(13)	(97)	7.4#
Marriages	570	8,550	8.2*
Divorces	269	3,357	3.2*
Induced Terminations	427	5,449	416.8#
Spontaneous Fetal Deaths	59	991	75.8#
Under 20 weeks gestation	(54)	(915)	70.0#
20+ weeks gestation	(5)	(76)	5.8#

(a) Cause of death statistics were derived from the underlying cause of death reported by physicians on death certificates.

(b) Rates per 100,000 estimated population of 1,048,319

(c) Years of Potential Life Lost (YPLL)

Note: Totals represent vital events which occurred in Rhode Island for the reporting periods listed above. Monthly provisional totals should be analyzed with caution because the numbers may be small and subject to seasonal variation.

* Rates per 1,000 estimated population
\# Rates per 1,000 live births
** Excludes two deaths of unknown age.

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NINETY YEARS AGO

[APRIL, 1912]

The Journal announced the Program of the 100th Annual Meeting of the Rhode Island Medical Society. The centennial celebration began at 10:30 a.m. at the 136 Dyer St. dock, where the Steamer Squantum ferried celebrants to Rocky Point. The morning was filled with ball games, wrestling matches, round robins, and motion pictures. At 1 pm all feasted on Rhode Island shore dinners, followed at 3 pm by siestas. At 3:30 the steamer returned to Providence. Later that evening, at 8:30, the Society formally opened its new library on Francis St.

In an address before the Providence Medical Association at its 1912 annual meeting, retiring president F.P. Capron, MD, discussed a major concern: "...patients well able to pay a satisfactory fee for an operation, [who] betake themselves to a hospital, hire a private room and [are] operated upon and attended by a surgeon, who happens to be on the visiting-list, thus obtaining the same treatment for nothing which they ought to pay for freely."

Charles Chapin, MD, summarized the "Health of Providence." In February his office recorded 316 deaths (32 fewer than in February 1911), an annual rate of 17.08 in an estimated population of 233,502, the lowest February rate since 1883. In the past two months his office had recorded 98 cases of scarlet fever (4 deaths), 12 of diphtheria (2 deaths), 14 of typhoid (1 death), 179 of measles (24 deaths), and 11 deaths from whooping cough. In addition, Dr. Chapin noted "A good deal of rubella."

FIFTY YEARS AGO

[FEBRUARY, 1952]

Robert Elman, MD, Professor of Clinical Surgery, Washington University, and the author of several surgical texts, delivered the 4th Annual Dr. Isaac Gerber Oration: "The Surgeon as Technician and Physician." Dr. Elman recounted the fluctuating reputation of surgeons, which began on a high note in the time of Hippocrates, then declined with Galen, whom Dr. Elman described as an "intellectual snob." The early Christian church, which considered the body sacred, considered exposing the body for surgery a sinful act.

Malcolm Winkler, MD, contributed "Early Cancer of the Skin," where he described basal, supeficial epitheliomatosis, squamous, and melanoma cancers.

In "Extragenital Chorionepitheliona in a Female Arising from a Mediastinal Teratoma," Herbert Fanger, MD, and Raymond MacAndrew, MD, described the first reported case of the condition in a female. (The literature described only 12 other cases, all in males.) Eleven years before admission, this 44 year-old woman had had an inguinal hernia. Five weeks before admission, she had had a cold, with a dry hacking cough, but no chills or fever. The authors found no tumor in the genitalia, but found tuberculosis of hilar lymph nodes and liver.

An Editorial on Fluoridation of Water Supplies urged "continuation of controlled studies," but offered lukewarm support for the practice: The Rhode Island Medical Society..." does not oppose the fluoridation of water supplies...but... is not prepared to urge the adoption of fluoridation at the present time."

A second Editorial on Pollution recounted a meeting of the Providence Medical Society with Mr. Austin Daley, Air Pollution Engineer for the City of Providence. Mr. Daley "is rather pessimistic about improvements in our city streets where large trucks and buses still pour out products of incomplete combustion."

A Eulogy for Isaac Gerber, MD, praised Rhode Island's first full-time radiologist, who first brought radium to Providence for use on patients.

TWENTY FIVE YEARS AGO

[FEBRUARY, 1977]

In a "Message from the Dean," Stanley M. Aronson, MD, reported on the internships at the Brown-affiliated hospitals in 1977-78: the hospitals offered 92 internships; 91 were filled by the Match, drawing students from 45 different American medical schools and 4 overseas ones. Fifteen of the 91 new interns were native Rhode Islanders.

In addition, Stanley M. Aronson, MD, introduced the 61 members of the class of 1977, with brief descriptions and pictures.

Several students contributed essays. Phyllis Ann Margaret Hollenbeck voiced "...little doubt that the sight of any basement room, with blue carpeting, too many chairs, and no windows can cause an acute claustrophobic reaction in most of my classmates."

Herbert Hager, the outgoing Rhode Island Medical Society president, objected to the "Certificate of Need" bill in the General Assembly. The bill was intended to limit the proliferation of computerized radiographic scanners to hospitals. Dr Hager argued: "As a native free-born citizen of this state, which was settled by Roger Williams, and whose capital building is adorned by the statue of the Independent Man, I am appalled at the loss of individual freedom imposed by this bill."

Myra Bergman Ramos, AM, Mary Ellen McCabe, LLB, and Stanley M. Aronson, MD, contributed "A Statistical Profile of Physicians Issued Licenses by the State of Rhode Island, 1967-1976." In that decade the state issued 1273 new licenses. From 1967-70 foreign medical graduates received 24.3% of those new licenses (36 of 148); from 1971-3, 52.5% of new licenses (43 of 177); from 1974-76, 50.8% of new licenses.